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AIR FORCE INTEGRATED READINESS MEASUREMENT SYSTEM
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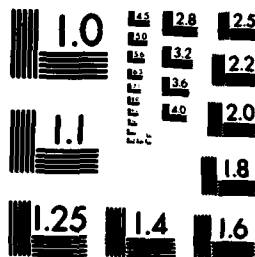
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UNITED STATES AIR FORCE

AIR FORCE INTEGRATED READINESS MEASUREMENT SYSTEM

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FUNCTIONAL AREA REQUIREMENT

Prepared for
UNITED STATES AIR FORCE
READINESS MEASUREMENT GROUP
(AF/X00RM)

Under
CONTRACT MDA-903-76-C-0396
REPORT 1031-2-5



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PREFACE

This final version of the AFIRMS Functional Area Requirement (FAR) contains changes and corrections to factual errors in the earlier draft version, released 23 October 1979.

Comments have been received from HQ USAF, HQ TAC, 9AF, 354TFW, and 4TFW, as requested. Minor changes and errors have been resolved, and additional requirement information supplied by readers has been included.

An errata compendium will be published as a supplement to this document. In-depth changes in definitions, doctrinal issues, and philosophical issues will be discussed in response to the thorough critique received from readers.

AF/XOORM and SofTech, Inc., appreciate the time and effort expended by everyone who reviewed and commented on this document.

ABSTRACT

Air Force readiness measurement information requirements are stated. These requirements are contrasted with existing readiness measurement products, and deficiencies and limitations are discussed. The need for an improved method of measuring unit level and overall force readiness based on a new concept - that of a tasking-based capability metric - is proposed. Finally, a recommended course of action for realizing the AFIRMS Functional Area Requirement is presented.

ACKNOWLEDGEMENTS

This document has evolved from the contributions of many Air Force personnel at all command levels. They have given willingly of their time and knowledge. Managers were interviewed on the use of readiness information in their assignments; about their desire for different or additional information; and for their expertise on some facet of the Air Force. Many of these personnel made critical comments on the models as they were developed. In addition to those earlier contributors who have been acknowledged in AFIRMS working documents, the AFIRMS Project Team thanks contributors at HQ USAF, HQ TAC, HQ 9AF, 4TFW, and 354TFW. Their names are listed below. The basic information was theirs. Any misinterpretations are ours.

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Col. Standerfer	RFR-DOOM	Maj. Tucker	DOOT
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Lt. Col. Kadar	DOC	Lt. Hugh	IN-TIS
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Lt. Col. Sides	DOOT	MSgt. Turner	DOC
Lt. Col. Skipper	RFM-DOOM		

4th Tactical Fighter Wing

Col. Rogers	Wing Commander (CC)
Col. Wiley	Vice Commander (CV)
Col. Cushenberry	Dept Cmdr for Operations (DO)
Lt. Col. Couser	Assistant Wing DO
Lt. Col. Madden	Squadron Commander
Maj. Haviland	DOTU
Maj. Kent	DOT
Maj. Krosnoff	Command Post
Capt. Parthum	Job Control
Capt. Schroeder	Squadron IP
Capt. Smith	DOTU
Sgt. Bihl	Command Post
Sgt. Robertson	Job Control

354th Tactical Fighter Wing

Col. Carns	Wing Commander (CC)
Col. Beckman	Vice Commander (CV)
Col. Miles	Dept Cmdr for Resource Management (RM)
Col. Miller	Dept Cmdr for Operations (DO)
Lt. Col. Ruble	Comptroller (AC)
Lt. Col. Schwab	Logistics Plans (LGX)
Maj. Greer	Management Analysis (ACM)
Maj. Rankin	Scheduling (DOTU)
Maj. Simpson	Plans (DOX)
Maj. Talbott	Maintenance/Job Control
Capt. Colman	Scheduling (DOTU)
Capt. Foster	Plans (DOX)
Capt. Kaiser	AC
Capt. Nickels	Supply
TSgt. Bryant	Mobility (LGX)
MSgt. Helsel	Command Post
MSgt. Largent	Command Post
MSgt. Shepherd	Mobility (LGX)
Ms. Hearion	Supply

EXECUTIVE SUMMARY

The AFIRMS Program

The Air Force Integrated Readiness Measurement System (AFIRMS) program was initiated in April 1978 by the Directorate of Operations and Readiness, Headquarters Air Force. The goal of AFIRMS is to provide Air Force decision makers and their staffs with a complete, timely, and accurate assessment of their combat readiness. Specifically, AFIRMS will support crisis planning and management, day-to-day operations, and budget and resource allocation.

Since AFIRMS requirements analysis began, over five hundred Air Force personnel at four command levels and various functional areas within Headquarters Air Force, Tactical Air Command (TAC), Strategic Air Command (SAC), Military Airlift Command (MAC), and Air Force Logistics Command (AFLC) have provided their expertise and have stated their readiness information requirements. Based on their contributions, the functional models and information requirements in this document were formulated.

Readiness Information Needs

Decreased response times to threats, the need to address multiple war scenarios, and increased weapon sophistication have brought about new and more stringent readiness information requirements.

During the readiness analysis, it became apparent that the Air Force needs a tool that will enable commanders and staff to make precise, well-understood, and objective statements about the readiness of their resources. The basis of this kind of understanding is readiness information which is tasking-based and available to support decision makers at all command levels. Unit readiness must be measured against the tasking levied on the unit. With this understanding of readiness, each resource is viewed as part of a complex, highly advanced system that delivers a force to deter or defeat threats.

A decision support system is required to enhance the readiness posture of these resources. This supporting system must be based on and reflect the well-defined, accepted, and understood readiness concepts surrounding these resources.

To begin to satisfy these Air Force needs, this document defines the readiness information requirements of the tactical (CONUS-based) fighter forces and their support units. The results of the analysis done at Air Staff, Major Command, Numbered Air Force, and Wing levels have established the need for an improved method of readiness measurement as well as a better way to express readiness. This document will serve as a basis of understanding for all future AFIRMS work.

FAR Analysis Findings

The analysis approach used in deriving the FAR views the Air Force as an integrated system. A wing, for example, is that part of the Air Force system that produces sorties of a specified type. Each component of a wing works together to generate sorties. If one of the essential components is missing or not operational, the sorties either do not happen or do not happen at the right time. The information needed at the wing level is the readiness of the wing to produce a certain type of sortie for a specified mission at a designated time. The information is very detailed and must be immediately available. As the level of command progresses to the Air Staff, the required level of detail, not the readiness information, changes. The wing remains the focus of readiness information.

Viewing the Air Force as an integrated system shows that what appear to be complex unique readiness information requirements at each command level, are really not overly complex or unique. A functional area manager's readiness information requirements at one level closely resemble, or are the same, as the counterpart at another level. The data used is the same or similar. What greatly differs is authority at different levels according to Air Force regulations and policy. The managerial functions also exhibit many similarities, specifically in decision making. The need for identifying shortfalls, reallocating resources, selecting and determining the capability of units, and determining dollar impacts on readiness are functions germane to resource management and response to crisis. The system view looks at the ability of Air Force resources to generate various types of sorties for training, exercise, or combat. The system view also considers the constraints on readiness of various mission types and tasking.

Another readiness factor addressed in this analysis is the kind of decision information used for daily business contrasted to contingency or crisis response. During a crisis, detailed readiness information is needed immediately throughout the Air Force. Higher levels of command get very interested in details, especially early in a contingency. By contrast, the wing always needs more detail than higher commands. However, higher command managers sometimes require details to answer questions or to make decisions. Routinely, force planners, budget defenders, and resource managers need precise readiness statements, current and predicted capability, and historical information.

Current Readiness Measurement

Since its beginning, the Air Force has continually sought to improve readiness concepts. Current readiness measurement methods are considerable improvements over resource inventory counts that once served to assess readiness. Today, unit readiness is reported Air Force-wide and is structured according to four major resource areas. This is a regimented daily reporting responsibility of all Air Force wings. Unit status is summarized and rated and may be compared by weapon system, resource area, and Major Command. The information desired about the resource depends on the user's management level and the purpose for obtaining the information.

The unique aspect of each set of current readiness information is the point of view of the user. Each functional area has its own way of expressing readiness about the resources that are its responsibility. Since current readiness assessment is resource-oriented rather than tasking-oriented, decision makers view readiness as a percent of authorized resources operationally or combat ready at a unit. What managers really need to know is whether or not unit resources can reasonably be expected to support the accomplishment of specific tasking. Tasking is that which imposes a sortie commitment on the unit.

Additionally, current systems exhibit traits or characteristics which diminish their usefulness as decision support systems:

- Resource data capture is a cumbersome, labor-intensive process requiring considerable subjective judgement. The techniques used encourage a high error rate.
- The timeliness of available readiness information is inadequate for crisis management.
- Information is not directly available to decision makers below the Major Command level. (Creates problems in maintaining current and accurate data for use at any level).
- Current systems do not make the information available in a useful form. They just produce sorted lists of resource status.
- There is no capability to project readiness or tie readiness to dollars.

Conclusions

This analysis yielded a definition of readiness that centers on tasking. To what degree desired readiness can be realized depends on the tasking imposed on the current posture. Any system implemented to support readiness management must objectively satisfy this concept. The deficiencies of current systems are of such a profound nature that they cannot be remedied by simply improving existing methods. To remedy these deficiencies, the AFIRMS program must devise a uniform, commonly understood measure of unit readiness to perform specific tasking; it must also provide useful measurement tools and coherent informational products to both its users and data producers.

Recommendations

This FAR recommends that the feasibility, utility, and cost of satisfying the readiness information requirements stated within, be analyzed and documented before proceeding to full scale system development. To accomplish this, the proposed approach is an AFIRMS Learning Prototype Phase (LPP). The major LPP products should be: (1) A final, detailed Functional Description (FD) of AFIRMS, based on the most pragmatic kind of judgement by the user -- judgement based on "hands-on" experience, (2) a complete functional specification, independent of vendor product line; and (3) a Data Automation Requirement (DAR) document for an operational system, with supporting economic analysis, a feasible schedule, and high-confidence estimates for acquisition cost and costs of ownership.

SECTION 1 - INTRODUCTION

This document is concerned with the readiness measurement information requirements of the Air Force. It is, in fact, a statement of the Functional Area Requirement for the Air Force Integrated Readiness Measurement System (AFIRMS).

1.1 Background

The AFIRMS program was initiated by the Directorate of Operations and Readiness, Headquarters United States Air Force in April 1978. The objective of the program is to provide Air Force decision makers and their staffs with a complete, timely, and accurate assessment of their combat readiness.

The completion of this document culminates the extensive study and analysis needed to accurately identify the requirements for readiness measurement information. At the same time, this FAR begins the conceptual phase of AFIRMS development.

Over five hundred Air Force personnel have provided expertise, advice, guidance, and most importantly, critical reviews of working documents. These personnel represent all levels of command and various functional areas within the Headquarters Air Force, Tactical Air Command, Strategic Air Command, Military Airlift Command, and Air Force Logistics Command.

1.2 What This Document is Not

Having stated that this document is about readiness measurement, it is important to state what it is not about. It is not concerned with a specific solution to the problem of satisfying the stated requirements, nor of providing a cost justification for a solution to that problem. The subset of those requirements to be satisfied through automation will be described in greater detail in the AFIRMS Functional Description (FD). Specific hardware/software suites satisfying these FD system requirements will be evaluated in the AFIRMS Data Automation Requirements (DAR). The stated object of this document, however, is to firmly establish the need for - the WHAT and WHY - of AFIRMS.

1.3 The WHY

Force readiness is a critical consideration in many Air Force decisions. Accurate and sufficiently robust force readiness information is needed to support:

1. Development and defense of the POM
 - Requires a capability to tie dollars to readiness -- Public Law 95-79, FY78, Defense Authorization Act
2. Allocation and reallocation of resources on a daily basis
3. Force planning and war planning
4. Crisis management
 - Must select unit to respond
 - Must determine shortfalls and possible corrective actions

To satisfy these needs, readiness must be stated in terms of Air Force ability to perform assigned tasking. Also, there are requirements to evaluate past readiness, current readiness, and the readiness of alternative future forces.

Although several methods are used for assessing combat readiness, a consensus of Air Force decision makers reflects dissatisfaction with the quality and timeliness of the readiness measurement information provided. For example, responding to crisis or contingency situations requires quick and accurate assessments of unit and overall force readiness to perform specified tasking. As a crisis rapidly changes, the source data representing the crisis situation may change significantly. Decision makers and their staffs do not have adequate tools available to them to quickly and easily access readiness measurements in a form immediately usable. The level of detail, manner of expression, or structure of the data may not be appropriate for readiness assessment purposes. During the course of interviews with Contingency Support Staff (CSS) members, it was learned that much data must be processed slowly and manually before it is usable. In many cases, the validity of the data is suspect, and frequent phone calls, often necessarily over secure lines, must be made to verify and explain data. Even after involved manual processing, the posture of resources

that affect the required readiness assessment is not always apparent. Nevertheless, large quantities of data are collected, reported, and processed daily in an attempt to provide the desired information. A functional area requirement exists for readiness information based on tasking, rather than for more resource status data.

1.4 The WHAT

Before prescribing a solution to the readiness measurement problem, we must first describe what information the users need. This can only be done by examining and describing the decision-making activities in the Air Force that require readiness measurement information. By examination of the overall requirement in context, the specific requirement can be derived, along with the desired properties, such as completeness, accuracy, level of detail or aggregation, and availability. This provides a baseline against which the limitations and deficiencies of current methods can be measured, or improved methods may be specified.

Specifically, the AFIRMS FAR:

- Presents readiness measurement information requirements in the relevant Air Force context
- Assesses current readiness measurement products
- Points out the limitations and deficiencies of current products
- Presents conclusions
- Recommends management actions.

1.5 A Working Vocabulary

There are numerous meanings of readiness-related terms in current usage; see Appendix B for a collection currently used within the Department of Defense. For purposes of readiness measurement in the AFIRMS context, it was necessary to choose precise meanings for readiness-related terms. Once this was accomplished, a rationale for readiness measurement had been created. The reader must be familiar with those terms as they are defined in this section; otherwise, the content of succeeding sections may be unclear.

The readiness-related terms used in this document are based on the Tactical Fighter Wing Operations Model presented in Appendix D, Models. Since it is

the operational readiness of the force that is of interest, the properties being measured to provide an assessment of readiness are derived from the wing operations model.

For readiness measurement purposes, readiness has meaning only in terms of capability to perform specified tasking. This capability can be expressed in units of measurement, such as sorties.

Readiness, for our purposes, must always be related to tasking. Thus, we define readiness as the capability available to perform the tasking specified in an OPLAN, frag order, or flying schedule.

Note that capability, as defined here, is not a direct function of the threat. The threat is implicit in the tasking. In this FAR, the concept of readiness is not extended to military effectiveness. Effectiveness is concerned with what is required to achieve political goals. Effectiveness issues are not addressed in this document.

In the AFIRMS context, readiness is also different from sustainability. Sustainability means being able to maintain a certain level of capability over a specified period of time. Sustainability is addressed in this document.

A working set of readiness measurement terms is presented in Appendix A, Definitions.

1.6 Remainder of Report

Readiness measurement information requirements in Section 3 are presented in the context of a management decision network. SADT models describe three management levels and show the data needed to carry out management functions in response to crisis and in day-to-day management. Models and tables show the decisions to be made and how readiness measurement information requirements are similar and different relative to command level and viewpoint. The models and requirements were formulated from interviews and supplementary Air Force documentation. Readiness measurement information requirements are addressed in terms of content, timing, and format.

In Section 4 readiness measurement products are discussed giving a historical perspective since 1947 and identifying Air Force readiness assessment systems currently in use. Readiness concepts, such as C-ratings and percentages, are evaluated. The limitations and deficiencies of current readiness measurements are explained by focusing on the metric used, the fidelity of the measurements (precision, timeliness, and synchronization), and the coherence of the readiness information currently presented. After comparing readiness measurement information requirements to existing capabilities, Section 4 highlights the resulting readiness measurement needs.

The conclusions in Section 5 summarize the needs pointed out in Section 4. An improved method of readiness measurement and a better product are required to provide the information of the quality and utility desired by the Air Force. A tasking-based readiness metric expressed in standard units or language and a method of deriving required readiness in terms of sorties by mission type are the main requirements presented.

Future AFIRMS development requires a Learning Prototype Phase to confirm the feasibility of satisfying FAR requirements. The objectives and major tasks required for this effort are presented and discussed in Section 6, Recommendations. To ensure technical accuracy and satisfaction of the FAR, continued user involvement is recommended.

SECTION 2 - METHODOLOGY

2.1 Approach

To be valid, the Functional Area Requirement for AFIRMS, as for any system, must be the result of a careful analysis of user needs. AFR 300-15, 16 January 1978, page 1-3, emphasizes the importance of the conceptual phase of system study and development:

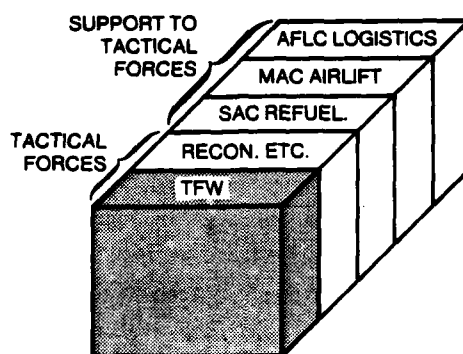
"Analyzing the Requirements. After the requirements have been stated, they must be analyzed to identify and define any problems that will be involved in providing, changing, or converting a management or operational capability to meet the requirement. The set of requirements that emerges after this analysis is the main tool used in project direction and control. Since the inability to produce this governing set of requirements may be a sign that the project is not needed, it is essential that: (1) The analysis be thorough and avoid specifying any specific design solution. (2) The analysis documentation defines the requirements clearly and fully."

The approach used to achieve these goals for AFIRMS consists of three essential elements. First, the desired user capability is defined in the form of readiness measurement information requirements. Next, actual automated and manual methods currently used for readiness evaluation are examined. Finally, the difference between desired and actual capabilities is presented in terms of deficiencies (unmet requirements) and limitations (poorly met requirements). Only after these steps have been performed, can valid conclusions be drawn and appropriate recommendations made.

2.2 Scope

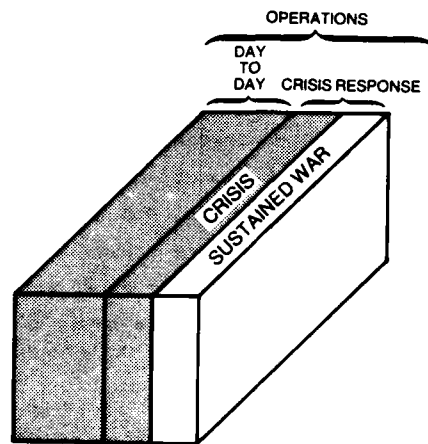
Rather than attempt a detailed study of the readiness information requirements of the entire Air Force, the scope of the analysis described in this document was reduced through several simplifying assumptions.

First, the result of the analysis describes the requirements of the CONUS-based, deployable tactical fighter forces only. The tactical fighter forces were chosen because estimation of their readiness is more difficult and more unstructured than for other commands. This is caused by the multiplicity of tasks contained in the tactical mission.

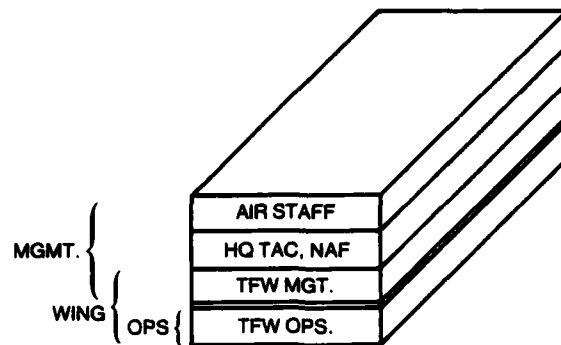


TAC receives support from other commands. Strategic Air Command (SAC) provides air refueling, Military Airlift Command (MAC) provides airlift, and Air Force Logistics Command (AFLC) provides logistics support. TAC is allocated some portion of these other commands' resources and capabilities to support its operation; however, TAC does not own or control these other commands. Since the scope of the current analysis effort does not extend to SAC, MAC, and AFLC, this document does not analyze the internal details of how these commands provide support. Instead, their support allocations to TAC is accepted at the level they commit. Separate analysis of these other commands would be necessary to determine their readiness, not TAC's.

Second, Air Force management was described using two points of view, the day-to-day management or "business" view, and response to crisis. As will be seen in Section 3, the activities that go into these two points of view are different, and the information requirements also differ.



Rather than model all operational management activities, the activities during a contingency situation are described. In other words, events leading up to a war plus the first seven days, rather than an entire war, are described. The crisis contingency model can also be viewed as a worst case surge situation, especially with respect to the quickness that information is required; in either crisis or contingency, it represents operational decisions and the information needed to make them.



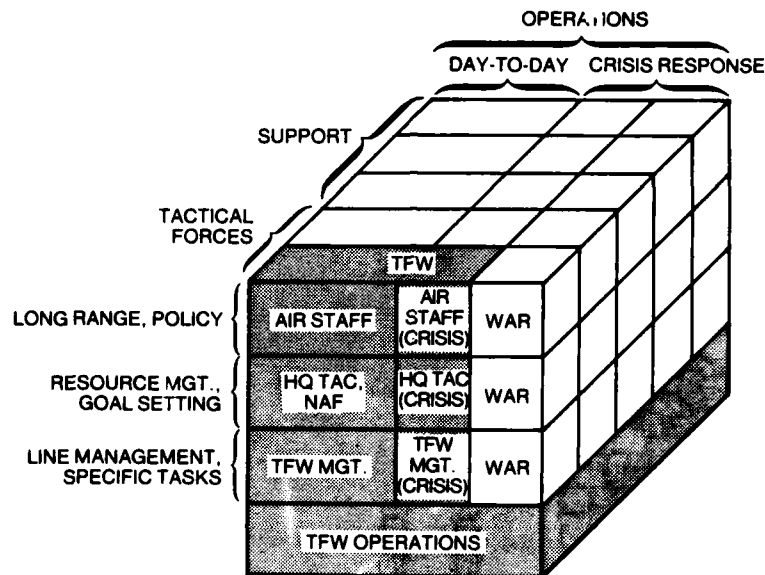
Third, management was described at three echelons: Tactical Fighter Wing corresponds to line management in charge of specific tasks. Next, HQ TAC corresponds to resource management and goal setting levels of management. Note that the activities of a Numbered Air Force are similar to HQ TAC but at a lesser level of aggregation. At the top, Air Staff responsibility includes budget, policy, resource allocation, and force level decision making, as well as guidance.

The TFW operations model at the bottom of the cube describes actual wing activities required to generate sorties, not the management of the wing.

These levels were chosen because the information requirements are different at each of these levels. Much of the source information is the same, but the requirements are different because the points of view and responsibilities are different. At the wing, we find a relative structured situation, specific tasks requiring detailed information near real-time. At the HQ TAC level, we find a semi-structured situation, such as resource allocation among wings, with somewhat aggregated data required with less currency and rapidity than at the wing, except during a contingency. At the Air Staff level, except in a contingency or crisis, there are very long range and broad management problems, such as force modification, operational planning, budget programming, and threat quantification. The information is required in a highly aggregated form for some purposes; yet

unpredictable requirements for details may occur to support Air Force program reclamation or to plan force assignments to meet perceived threats.

The figure below summarizes the scope of this study. Models have been constructed for the shaded parts and are contained in Appendix D.



Finally, the analysis addresses only readiness measurement information requirements, not all information requirements. This significantly reduces the scope since, as examination of the tables in Section 3, Readiness Measurement Information Requirements, shows, other kinds of information requirements are apparent and could be derived from the models in this study. To understand the criteria for calling a particular requirement a readiness measurement information requirement, one must be familiar with the definitions presented in paragraph 1.5, A Working Vocabulary.

2.3 Techniques

Information requirements could be the system builder's preference or the combined wish lists of real and imagined users of the proposed system. This approach to requirements definition is not the one used to develop this Functional Area Requirement. The information presented in this document is the result of the extensive study and analysis of what users do, what decisions they make, the information used to influence those decisions, and the properties of that information. The primary sources of the information used to derive the FAR were Air Force personnel, the people who prepare and use readiness measurement information. A cross section of these personnel at all levels of command were interviewed and consulted.

Additionally, the functions to be supported by readiness measurement information had to be understood. Significant effort was devoted to comprehending the processes, policies, procedures, and organization of the Air Force.

Most recently, for the reasons discussed in the previous section, interviews were conducted within the Tactical Air Command. With direction provided by AF/XOORM, interviews proceeded from the Air Staff through HQ TAC, HQ 9AF, 4TFW, and 354TFW. The use of this path allowed an appreciation of the controlling information and activities at higher command levels and the realization and control of the intended operations at the Tactical Fighter Wings. Along the way, similarities and differences in how readiness measurement and the associated information requirements are viewed at each command level were learned. Always, the user's viewpoint was taken and his requirements explored.

A disciplined analysis technique, called SADT™ - Structured Analysis and Design Technique, a trademark of SofTech, Inc. - was used throughout the study and analysis effort. SADT consists of a graphical language for describing systems. The language describes the relationships between activities and data within a system such that people with diverse backgrounds can understand the system being described. This language allows unambiguous communication of information between analysts and people interviewed. The technique includes a precise method for developing these descriptions as well as procedures for documenting the analysis process. The SADT language is used in Section 3, Readiness Measurement Information Requirements, and Appendix D, Models, to

present the results of the requirements analysis. These SADT diagrams have been through a thorough review cycle. They have been reviewed by many of those who furnished information as well as AF/XOORM and project personnel.

SECTION 3 - READINESS MEASUREMENT INFORMATION REQUIREMENTS

3.1 Section Contents

This section presents readiness measurement information requirements in the context of management decisions that depend on information. SADT models are used to describe these requirements. Collectively, these models form a management decision network operating continuously and changing emphasis as the world situation dictates. This model network is explained in Section 3.2.

The functions (or activities) in the models occur at three different levels of command. The information (data) in the models is needed to carry out the functions. The activity diagrams that appear in Sections 3.3 and 3.4 are overviews of the models. The complete set of models is in Appendix D.

There is also text above each diagram in Sections 3.3 and 3.4 to explain the activities and decisions taking place. Opposite each page of text and model diagram is a table (either summary or foldout) that correlates to the opposing diagram. (Readers should first read the text, then scan the diagram, and last correlate the table with the diagram.)

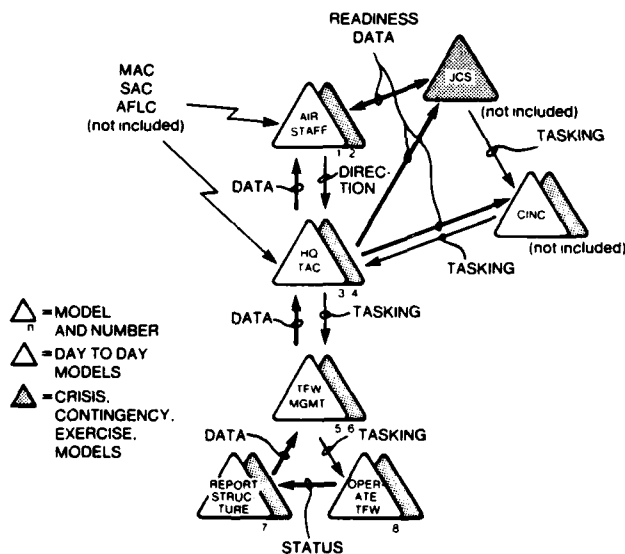
The purpose of each foldout in Sections 3.3.1 and 3.4.1 is to specify the information required to make the decision or to perform the activity listed in the first column of the table. The boldface underlined activities in the first column of each table match the activities on the overview diagram. Thus, on two facing pages, the reader can see one command level of the management decision network, in either day-to-day (Section 3.3) or crisis (Section 3.4) mode, and the information needed to support each function. For readers wishing to skip the foldout detailed tables, Sections 3.3 and 3.4 contain high level summaries (with tables and diagrams) of the general information requirements.

Readers should review the foldout table columns titled Readiness Measurement Requirements and see how they relate to the activities and decisions listed. For those who want more detail and would like to see data that support these information requirements, Appendix F contains examples of the kinds of resource data and tasking information that capability statements should address. The data is ordered by major functional areas at three command levels within the tactical fighter forces. Appendix F contains instructions for reviewing the

data. Keep in mind that these resources, as well as the data about them, must be integrated to yield a measurable unit of readiness. Otherwise, less meaningful management decision information will be produced.

3.2 Readiness Measurement Information for A Management Decision Network

Readiness measurement information must indicate to Air Force managers to what degree tactical fighter units and combat related units can perform their tasking. In the tactical fighter forces, readiness measurement information must convey the readiness of Tactical Fighter Wings (TFW) to produce a specific type of sortie. This information is needed by Air Force managers day-to-day and during a contingency. To derive the requirements for readiness measurement information, the functions and activities of Air Force personnel in the chain of command that need readiness measurement information were analyzed. The decisions occurring at each level of management during day-to-day and contingency were documented using SADT models. The figure below represents a network of the models produced. Each triangle symbolizes a model in the network.



The network shows both the chain of command and the information flow between Air Force management levels. Models 1 through 6 describe the management functions analyzed at Air Staff, Tactical Air Command, and Tactical Fighter Wings. Model 8 describes the operation of a Tactical Fighter Wing. It portrays the wing resources as a working system producing sorties. This generic functional model can be activated for training, exercises, operational inspections, crisis, and war. Model 7 ties the Tactical Fighter Wing's management to its operation through a reporting structure. These models are descriptive. They describe current working systems as they are, not as they should be. No attempt has been made to prescribe a decision support system or a readiness measurement support system. The information requirements describe the kind of readiness information needed to support decision makers. System products have not been prescribed.

It should be noted that separate models were not prepared for management functions performed at the Numbered Air Forces (NAF). Their activities closely resemble those of HQ TAC, and they use aggregated wing data in supporting HQ TAC. JCS and CINC triangles are provided for context only; they are out of the scope of this analysis.

Table 3-1 lists the contents of each model. Only the overview diagrams appear in this section (A-1, A0). For details in lower level diagrams, refer to Appendix D page numbers listed.

TABLE 3-1: AIR FORCE MANAGEMENT DECISION MODELS
DAY-TO-DAY

<u>Diagram Title</u>	<u>Page No.</u>
A-1 <u>Maintain Air Force Readiness (Summary)</u>	3-8 (D-11)
<u>MODEL 1 - AIR STAFF</u>	D-13
A-0 Context: Manage Air Force Resources	D-15
A0 <u>Manage Air Force Resources (Day-to-Day)</u>	3-10 (D-16)
A1 Determine Air Force Resource Requirements	D-17
A11 Plan Force Structure	D-18
A13 Specify Performance and Resource Requirements	D-19
A2 Obtain Resources	D-20
A21 Develop and Defend POM	D-21
A3 Monitor and Manage	D-22
A31 Oversee Operations and Programs	D-23
A33 Respond to Questions and Problems	D-24
<u>MODEL 3 - TACTICAL AIR COMMAND</u>	D-25
A-0 Context: Manage Tactical Fighter Wings	D-27
A0 <u>Manage Tactical Fighter Wings (Day-to-Day)</u>	3-12 (D-28)
A1 Analyze Requirements	D-29
A2 Develop Plans for Accomplishing Requirements	D-30
A3 Obtain Required Support	D-31
A4 Monitor Performance	D-32
<u>MODEL 5 - TACTICAL FIGHTER WINGS</u>	D-33
A-0 Context: Manage Wing Operations (Day-to-Day)	D-35
A0 <u>Manage Wing Operations (Day-to-Day)</u>	3-14 (D-36)
A1 Analyze Wing Requirements	D-37
A2 Plan Use of Resources (Long Range)	D-38
A3 Obtain Resources	D-39
A4 Control Use of Resources	D-40
A5 Report Resources	D-41

CRISIS (CONTINGENCY)

<u>Diagram Title</u>	<u>Page No.</u>
A-1 <u>Plan and Execute Crisis Response (Summary)</u>	3-20 (D-45)
<u>MODEL 2 - AIR STAFF</u>	D-47
A-0 Context: Support Crisis Preparation and Execution	D-49
A0 <u>Support Crisis Preparation and Execution</u>	3-22 (D-50)
A2 Develop Combat Options	D-51
A3 Develop Support and Augmentation Options	D-52
A4 Monitor Deployment and Employment	D-53
A42 Examine and Analyze Critical Information	D-54
<u>MODEL 4 - TACTICAL AIR COMMAND</u>	D-55
A-0 Context: Prepare and Manage Crisis Response	D-57
A0 <u>Prepare and Manage Crisis Response</u>	3-26 (D-58)
A1 Make Force Decisions	D-59
A2 Plan Execution	D-60
A3 Coordinate Mission Support	D-61
A5 Monitor and Control Deployment	D-62
<u>MODEL 6 - TACTICAL FIGHTER WINGS</u>	D-63
A-0 Context: Respond to Crisis	D-65
A0 <u>Respond to Crisis</u>	3-28 (D-66)
A1 Analyze Wing Requirements	D-67
A11 Activate CSS	D-68
A12 Develop Mobility Concept	D-69
A13 Plan Operations	D-70
A2 Assign Resources	D-71
A3 Monitor Mobilization, Deployment, Employment	D-72

WING OPERATIONS MODEL

<u>Diagram Title</u>	<u>Page No.</u>
<u>MODEL 7 - TACTICAL FIGHTER WING</u>	D-73
FEO Reporting Structure	D-75
<u>MODEL 8 - TACTICAL FIGHTER WING*</u>	D-77
A-0 Context: Operate Tactical Fighter Wing	D-79
A0 Operate Tactical Fighter Wing	D-80
A1 Mobilize	D-81
A12 Marshall	D-82
A13 Load	D-83
A2 Generate (Regenerate)	D-84
A21 Inspect, Account, or Place (Resources)	D-85
A211 Inspect Aircraft	D-86
A22 Maintain	D-87
A23 Configure	D-88
A3 Deploy	D-89
A4 Employ	D-90
A41 Launch	D-91
A42 Perform Mission	D-92
A43 Recover	D-93

* Note: This model can be activated for: training, exercises, operational readiness inspection, crisis, and war.

The Air Force is responsible for planning, providing, maintaining, and training a combat ready Air Force. Day-to-day activities are performed to ensure the Air Force is prepared to meet its combat commitments. JCS and CINCs (boxes 1 and 2) are beyond the present scope of this study. They are included to capture the whole system context.

The Tactical Air Command (box 4) participates in planning the perceived war-time operations of its combat wings and continuously monitors wing performance. HQ TAC establishes wing training and performance criteria, schedules wing participation in exercises, coordinates and obtains support from other Major Commands, SAC and MAC, and resolves problems and deficiencies for wing management. HQ TAC and NAF, as middle management levels, must know the readiness of each unit to meet specified tasking at any time.

EXECUTIVE & CONGRESSIONAL GUIDANCE

OTHER SERVICES READINESS DATA

PERCEIVED THREATS

DEVELOP AND APPROVE PLANS 1

CONSOLIDATED GUIDANCE COMPLAN

JCS

PLAN WAR 2

FORCE & PLANS 3

APPROVED BUDGET

OPLANS

MANAGE AIR FORCE RESOURCES 3

AIR STAFF

MANAGE TACTICAL FIGHTER WINGS 4

AUTHORITATIONS: BUDGET, PAA TA, MANING

WING FLYING HOURS, ALLOCATIONS

ANTICIPATIONS

BOMTS

MANAGE WING OPERATIONS 5

TFW

OPERATE TFW 6

TFW

RESOURCE STATUS & PERFORMANCE DATA

WING OWNED RESOURCES AND OTHER PROVIDED RESOURCES

WING RESOURCE STATUS, PERFORMANCE & READINESS DATA; SUPPLY REQUESTS; BUDGET INPUTS

TAC WINGS' RESOURCE STATUS, PERFORMANCE DATA, TAC BUDGET INPUTS, TAP DOM INPUTS

TAC (APPROX & AFLC)

PERCEIVED THREAT

POM & BUDGET TO SECDEF, QM CONGRESS; NEW ACQUISITION PROGRAMS

SUPPLY REQUEST TO: AFLC, SAC, HMC, ETC

SUPPLY REQUEST LATERAL & AFLC

TRAINING, EXERCISES, & CRT SORTIES

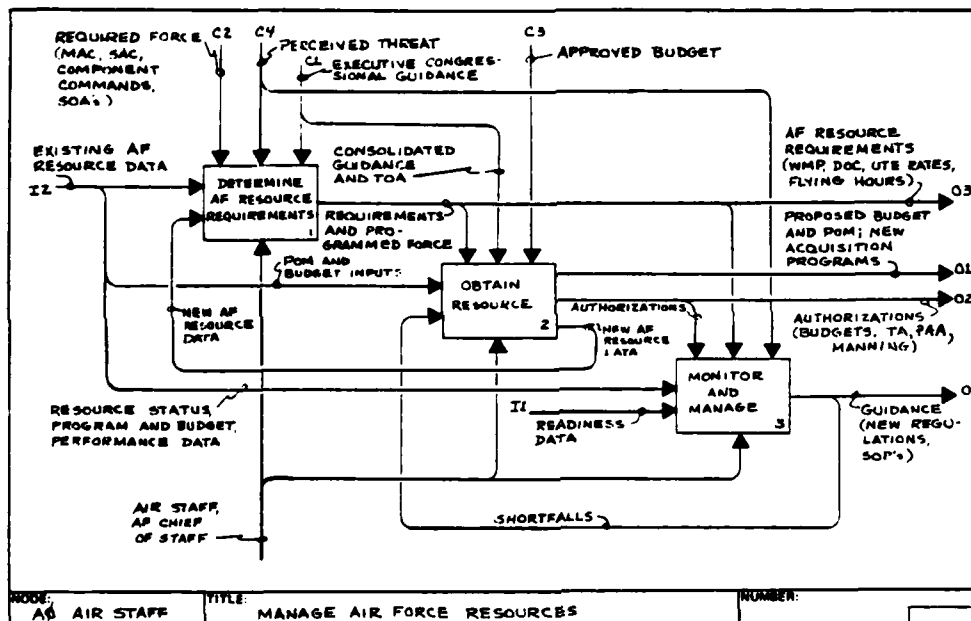
TABLE 3-2. SUMMARIZED DAY-TO-DAY MANAGEMENT REQUIREMENTS

FUNCTIONS SUPPORTED			
PLAN	PROVIDE	MAINTAIN	TRAIN
CONTENT	TIMING	FORMAT	
<ul style="list-style-type: none"> • Must reflect readiness impact of trends in condition of resources • Must be aggregated to a level which is useful for making force structure, budgeting, and resource allocation decisions • Must identify and quantify system wide deficiencies • Must state resource requirements to meet hypothetical tasking • Must assist both line management (wing level decision making) and higher level management, (Air Staff decision making) • Must represent a level of detail appropriate to the decision being made • Must reflect increase/decrease in readiness due to resource expenditures • Must answer questions directly 	<ul style="list-style-type: none"> • Must be available for performance of day-to-day activities • Must be available in time to make effective decisions 	<ul style="list-style-type: none"> • Must be presented in formats tailored to varied needs of users 	

3.3.1 Air Staff Decisions

Daily, the Air Staff determines resources needed (box 1), obtains and apportions funds to procure the resources (box 2), and oversees the use of the resources (box 3) to ensure that the Air Force is prepared to meet its wartime commitment. Readiness information is needed to support the Air Staff in making far-reaching decisions. Day to day, the Air Staff requires aggregated wing data for making predictions, planning forces, justifying budgets, formulating programs, and examining trends for modifications and procurements.

Air Staff long-range planning requires predictive and historical information concerning overall force readiness. Predictive information must state what capability can be expected from existing resources and what resources are required to satisfy a desired level of readiness to meet the perceived threat. The historical data must state what levels of readiness were maintained with available, not authorized resources, and how resource shortfalls affected readiness levels.



**TABLE 3-3: MANAGE AIR FORCE RESOURCES (AIR STAFF)
(DAY-TO-DAY)**

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENT	
		INFORMATION	PRO
DETERMINE AF RESOURCE REQUIREMENTS (A1) <ul style="list-style-type: none"> • Plan Force Structure (A11) • Preplan Use of Force (A12) • Specify Performance and Resource Requirements (A13) 	<ul style="list-style-type: none"> • Threat Estimates • Existing AF Resource Data <ul style="list-style-type: none"> WMP DOC Flying Hours UTE Rates Performance Data • New Weapon System(s) Data (MDS Performance Criteria) 	<ul style="list-style-type: none"> • Given required capability levels of existing combat units, the resource requirement to operate at the required levels (e.g., resource requirements to support X number of sorties by type for Y days for Z units or aircraft) • Status of facilities at employment location • Transportability of resources 	<ul style="list-style-type: none"> • Depict relationships proper amounts of e specific assignment • Must be based on rea e.g., proper attrition • Available on an as ne
OBTAIN RESOURCES (A2) <ul style="list-style-type: none"> • Develop and Defend POM (A21) • Develop and Defend Budget (A22) • Procure and Enlist (A23) 	<ul style="list-style-type: none"> • Last Year's POM • Existing AF Resource Data (e.g., status, location, amount, availability) • Panel Briefings • TAF POM Inputs • Revisions, Requests • Program Options, Recommendations • Preliminary POM • Short Term Deficiencies • MAJCOM Budget Inputs • Supply Requests 	<ul style="list-style-type: none"> • Must represent fluctuations in capability based on different levels of funding, impacts on units' capabilities as a result of budget cuts or resource allocations • Overall readiness implications of dollar decisions • Trends in AF readiness resulting from shortfalls and deficiencies in specific resource categories • Relationship of resource levels to capability of combat units to perform tasking • Historical data tracking relationship of budget decisions to combat capability • Readiness implications of specific resource categories and resource levels (e.g., impact of 10% reduction in flying hours for training) 	<ul style="list-style-type: none"> • Must present a consis of capabilities • Must permit comput. hypothetical data, e-bility level with \$50 \$25 million for flying • Aggregated readiness systems, and mission assignment • Available on an as ne
MONITOR AND MANAGE (A3) <ul style="list-style-type: none"> • Oversee Operations and Programs (A31) • Make Improvements (A32) • Respond to Questions and Programs (A33) 	<ul style="list-style-type: none"> • Material and Manpower Status Data • Resource Status Performance Data <ul style="list-style-type: none"> What or what Where What can it do and how long How many Condition • Management Direction <ul style="list-style-type: none"> Answers to questions • Organizations, Staff, Files, Information Systems 	<ul style="list-style-type: none"> • Detailed unit capability based on planned war time tasking capability measured against all levels of tasking (including primary, secondary, tertiary DOC statements) • Aggregated and detailed readiness to provide special capabilities, e.g., Maverick, Pavespoke, etc. • Benchmark Combat Capability levels for different MDS units. Manu- -ent indicator of TFW's performance against specific tasking requirements. Means of comparing unit's readiness • Shortfalls 	<ul style="list-style-type: none"> • Capability or readiness specific tasking again • Must highlight shortf overall ability to man • Report on an as nee • Not known

R STAFF)

DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
	INFORMATION	PROPERTIES
<p>ates</p> <p>Resource Data</p> <p>Budgets PAA TA Manning Levels</p> <p>System(s) Data (Performance Criteria)</p> <p>Resource Data (e.g., status, availability)</p> <p>Relationships, Recommendations</p> <p>Manpower Status Data</p> <p>Performance Data</p> <p>How many Condition</p> <p>and how long</p> <p>Direction</p> <p>Questions</p> <p>Staff, Files, Information</p>	<ul style="list-style-type: none"> Given required capability levels of existing combat units, the resource requirement to operate at the required levels (e.g., resource requirements to support X number of sorties by type for Y days for Z units or aircraft) Status of facilities at employment location Transportability of resources Must represent fluctuations in capability based on different levels of funding, impacts on units' capabilities as a result of budget cuts or resource allocations Overall readiness implications of dollar decisions Trends in AF readiness resulting from shortfalls and deficiencies in specific resource categories Relationship of resource levels to capability of combat units to perform tasking Historical data tracking relationship of budget decisions to combat capability Readiness implications of specific resource categories and resource levels (e.g., impact of 10% reduction in flying hours for training) Detailed unit capability based on planned war time tasking, capability measured against all level of tasking (including primary, secondary, tertiary DOC statements) Aggregated and detailed readiness to provide special capabilities, e.g., Maverick, Pavespike, etc. Benchmark Combat Capability levels for different MDS units. Management indicator of TFW's performance against specific tasking requirements. Means of comparing unit's readiness Shortfalls 	<ul style="list-style-type: none"> Depict relationships of resource categories and proper amounts of each resource to perform a specific assignment Must be based on realistic resource standards, e.g., proper attrition rates, break rates, etc. Available on an as needed basis Must present a consistent and reliable assessment of capabilities Must permit computation of capabilities based on hypothetical data, e.g., depict a different capability level with \$50 million for flying hours vs. \$25 million for flying hours Aggregated readiness data by command, weapon systems, and mission, measured against a specific assignment Available on an as needed basis Capability or readiness always reported with specific tasking against which it was computed Must highlight shortfalls which are impacting on overall ability to maintain high level of readiness Report on an as needed or request basis <p>(Not known)</p>

3.3.2 Tactical Air Command Decisions

HQ TAC controls and monitors its wings with assistance from NAF. HQ TAC is the requirements communication link for CONUS tactical fighter wings and to some extent for non-CONUS wings, via Pacific Air Force (PACAF) and United States Air Force Europe (USAFE). HQ TAC must ensure that the readiness of its wings, through NAF, does not decline because of insufficient resources or inefficient placement of resources.

To see that TAC programs, such as exercises, training, and conversions do not affect combat delivery capability, HQ TAC requires data on wing, squadron, and unit resources daily (box 4). When a problem arises, managers determine how the requirements from higher headquarters are going to be met (box 2) and resolve the shortfalls (box 3).

The readiness measurement information requirement deals with impacts, or how many perturbations the wings can tolerate before their capability is affected. HQ TAC must also manage under the constraints of authorized resource levels (box 2) and budgets (box 3). Managers must be aware of the impacts of reduced funds and changing resource levels.

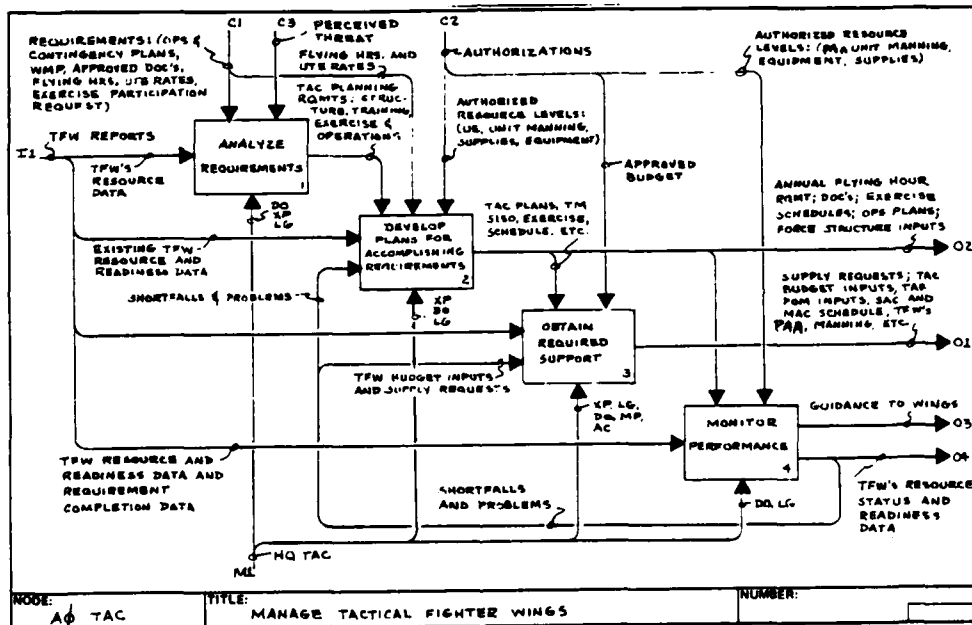


TABLE 3-4: MANAGE TACTICAL FIGHTER WINGS (HQ TAC)
(DAY-TO-DAY)

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
		INFORMATION	PROPERTIES
ANALYZE REQUIREMENTS (A1) <ul style="list-style-type: none"> Determine mission structure, training, and planning requirements Select exercise participants 	<ul style="list-style-type: none"> Operations and contingency plans War and mobilization plan AF annual flying hour requirement UTE rates Approved DOC Special Tasking Exercise participation requests Perceived threat TFW Resource data <ul style="list-style-type: none"> What Condition How many 	<ul style="list-style-type: none"> Impact on wing's readiness resulting from TFW participation in exercises <ul style="list-style-type: none"> Diminished wing readiness while TFW is deployed to exercise location Increased readiness resulting from exercise participation Wings' capabilities to perform proposed OPLANS or contingency plans <ul style="list-style-type: none"> Limiting factors (shortfalls) Additional resource requirements 	<ul style="list-style-type: none"> Must have predictive capability Must be capable of showing results in exercises and specific missions Must allow comparison among wings
DEVELOP PLANS FOR ACCOMPLISHING REQUIREMENTS (A2) <ul style="list-style-type: none"> Develop force structure inputs, component OPS Plan inputs, exercise schedule, wing training requirements, resource requirements, and resource use plan 	<ul style="list-style-type: none"> TFW resource status data Planning requirements Training status Authorized resource levels <ul style="list-style-type: none"> UE Equipment Unit manning Supplies Shortfalls and problems 	<ul style="list-style-type: none"> Hypothetical capabilities based on varying schemes for allocating resources, e.g., wings' capabilities to perform specific tasking based on varying levels of flying hours for training 	<ul style="list-style-type: none"> Available as needed Current status as well as historical Aggregated for all wings, data
OBTAIN REQUIRED SUPPORT (A3) <ul style="list-style-type: none"> Develop TAF POM inputs Determine MAC and SAC support requirements Develop TAC budget 	<ul style="list-style-type: none"> TFW budget inputs Supply Requests TAC plans TAC manual 51.50 Exercise schedule Data on critical parts, equipment, AGE 	<ul style="list-style-type: none"> Readiness implications of varying resource allocation levels and priorities Resource and dollar requirements to meet varying levels of capability, e.g., sortie surge 	<ul style="list-style-type: none"> Expressed in dollars, resources Based on actual performance break rates, attrition rates
MONITOR PERFORMANCE (A4) <ul style="list-style-type: none"> Relate actual to expected Determine shortfalls Determine corrective action 	<ul style="list-style-type: none"> TFW resource status data Requirement completion data TFW requirements <ul style="list-style-type: none"> TAC plans TAC manual 51.50 Exercise schedule 	<ul style="list-style-type: none"> Aggregated capability at all tactical fighter squadrons, capability by MDS and general mission Individual wing/squadron capability to meet DOCs Shortfalls and expected 'get well' dates; e.g., ETICs Trends in readiness levels and reasons for decreases in overall readiness posture, e.g., break rates, supply delays, conversions 	<ul style="list-style-type: none"> Accessible to a variety of users to their needs Must track history of wings' actual resource levels and capability Must highlight TAC deficiency summary capability

S (HQ TAC)

DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
	INFORMATION	PROPERTIES
and contingency plans evolution plan flying hour requirement DOC ing participation requests threat data Condition status data requirements atus resource levels Equipment Supplies problems inputs costs 51-50 style parts, equipment, AGE status data completion data ments at 51-50 style	<ul style="list-style-type: none">• Impact on wing's readiness resulting from TFW participation in exercises Diminished wing readiness while TFS is deployed to exercise location Increased readiness resulting from exercise participation• Wings' capabilities to perform proposed OPLANS or contingency plans Limiting factors (shortfalls) Additional resource requirements• Hypothetical capabilities based on varying schemes for allocating resources, e.g., wings' capabilities to perform specific tasking based on varying levels of flying hours for training• Readiness implications of varying resource allocation levels and priorities• Resource and dollar requirements to meet varying levels of capability, e.g., sortie surge• Aggregated capability at all tactical fighter squadrons, capability by MDS and general mission• Individual wing/squadron capability to meet DOCs• Shortfalls and expected 'get well' dates; e.g., ETICs• Trends in readiness levels and reasons for decreases in overall readiness posture, e.g., break rates, supply delays, conversions	<ul style="list-style-type: none">• Must have predictive capability• Must be capable of showing performance trends in exercises and specific mission success figures• Must allow comparison among wings' capabilities• Available as needed• Current status as well as historical• Aggregated for all wings, detailed by unit• Expressed in dollars, resource type, and amount• Based on actual performance history, e.g., break rates, attrition rates• Accessible to a variety of users in formats suited to their needs• Must track history of wings' readiness based on actual resource levels and conditions; mapping capability• Must highlight TAC deficiencies and problems; summary capability

3.3.3 Tactical Fighter Wing Decisions

From day to day, a Tactical Fighter Wing must operate in a constant state of readiness to respond to crisis. The resources it uses, the training it programs, the exercises it practices, and the inspections it undergoes ensure that when a contingency or crisis occurs, the wing can meet its wartime commitment. The driving commitment is specified by location, response time, and minimum sustainability.

Tasking levied on a wing by HQ TAC is designed to ensure that units are capable of executing wartime requirements. In peacetime, the tasking is designed to exercise the wing in a simulation of its combat roles. Tasking imposes a sortie commitment on the unit. Wing management and leadership must analyze the tasking and translate it into specific training and exercise requirements in order to develop combat proficiency (box 1).

Long range plans to utilize allocated flying hours must be generated (box 2). In addition, operations plans and schedules must be formulated to structure and arrange flying activity. All this must be done within the limits of prescribed authorizations and guidance from HQ TAC (box 2).

Adequate resource levels must be maintained to support the planned activity and wing program. To ensure that the wing remains viable, managers must submit recommendations and requests for resource dollars, hard resources, and support (box 3).

Without control (box 4) within the wing, the components of the wing cannot be coordinated to generate the wing product, the sortie. How often and how well a wing produces the product is determined by available resources and management efficiency (leadership, motivation). This efficiency must be supported by information that reveals the health and readiness posture of the wing to management (box 5).

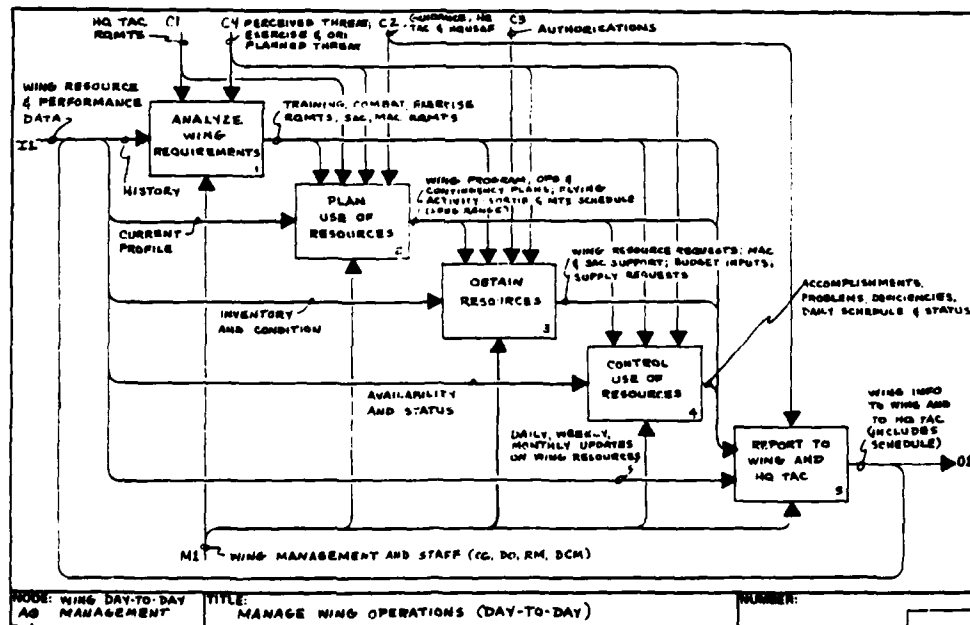


TABLE 3-5: MANAGE WING OPERATIONS (TFW)
(DAY-TO-DAY)

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
		INFORMATION	PF
<p>ANALYZE WING REQUIREMENTS (A1)</p> <ul style="list-style-type: none"> Can present wing units satisfy HQ TAC, CINCLANT, CINCEUR, etc., requirements? What are shortfalls in PAA, TA, manning, fuels, benchstock, WRSK, MR pilots? What are alternatives and changes required in wing program to meet tasking? 	<ul style="list-style-type: none"> Wing historical resource data—PAA and status <i>Performance history</i> Missions accomplished by type Sorties completed — exercise, training, combat, ORI A/C generated Shortages, crude limiting factor calculations Previous UTE rates, sorties required to perform mission and accomplish training Performance records — break rates, crew proficiency DOC, contingency plans and OPLANS WMP, flying hours required Condition of A/C, available MX skills, aircrew grades and levels, equipment and supply status 	<ul style="list-style-type: none"> Limiting factors to meet wartime tasking A/C Aircrew training Supplies for mission capability Manning, Skills Support equipment Facilities at employment base — prepositioned WRM assets Impacts of limiting factors on wing capability Effects of usage rates Impacts of modifications Impacts of other tasking Impacts of PDM schedules Impacts of joint scheduled exercises 	<ul style="list-style-type: none"> Must have predictive Must be aggregated deployment, emplo Must reflect levels of meeting tasking and Must be capable of trends in exercise a Must reflect tasking system and support Must be current and Repeatable, consist Must be structured accommodate chan Must reflect actual resources, not authi
<p>PLAN USE OF RESOURCES (A2)</p> <ul style="list-style-type: none"> How many sorties can present resources generate and support to perform given tasking? How many flying hours are required to generate the sorties needed to meet training levels? How many sorties should MX units generate, given present tasking? How many training sorties are required to meet tasking? What GCC levels must be achieved to meet tasking? What MX skills must be exercised to meet tasking? What resources are required for planned joint exercises? What skills must be regularly exercised to be able to meet tasking; e.g., mobility, generation. 	<ul style="list-style-type: none"> DOC (tasking) Current GCC levels of pilots Exercises documented analysis and plans ORI results and deficiencies Current skill levels of MX units Previous wing schedules and activity Current training, combat, exercise requirements (includes AR and Air-lift support) Wing OPLANS and contingency plans (checklists and procedures) 51-50 Crew Mission Training Requirements Judgement and experience 	<ul style="list-style-type: none"> Tasking in the form of training requirements, of plans, operations orders Training sorties required for each pilot to maintain proficiency stated in DOC A/C generation required to support flying activity (by unit or squadron) Shortfalls in maintaining GCC levels Shortfalls in improving GCC levels Shortfalls in maintenance Shortfalls in supplies Current GCC levels of pilots available, sorties performed at each level, remaining requirements not met Current maintenance skills available Predicted capability Judgement and experience 	<ul style="list-style-type: none"> Ordered by GCC level crew member, order ordered by individual type of sortie or co Maintenance skills of squadron and techn Aggregated weekly, yearly Accommodate char to include the crisis and major deployment Accommodate unsc and crisis mode of c Complete detail ava Immediately access Projections as need

(Continued on next page)

CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
	INFORMATION	PROPERTIES
<ul style="list-style-type: none"> • Current data- PAA and • Object by type • Exercise, train- • Initial factor • Sorties required and accomplish • Break rates, • Plans and OPLANS required • Available MX skills, levels, equip- • Status • Pilots • Analysis and • Efficiencies • Of MX units • Schedules and activity • Combat, exercise • Includes AR and Air- • Contingency (procedures) • Training Requirements • Experience 	<ul style="list-style-type: none"> • Limiting factors to meet wartime tasking <ul style="list-style-type: none"> A/C Aircrew training Supplies for mission capability Manning, Skills Support equipment Facilities at employment base -- prepositioned WRM assets • Impacts of limiting factors on wing capability • Effects of usage rates • Impacts of modifications • Impacts of other tasking • Impacts of PDM schedules • Impacts of joint scheduled exercises • Tasking in the form of training requirements, of plans, operations orders • Training sorties required for each pilot to maintain proficiency stated in DOC • A/C generation required to support flying activity (by unit or squadron) • Shortfalls in maintaining GCC levels • Shortfalls in improving GCC levels • Shortfalls in maintenance • Shortfalls in supplies • Current GCC levels of pilots available, sorties performed at each level, remaining requirements not met • Current maintenance skills available • Predicted capability • Judgement and experience 	<ul style="list-style-type: none"> • Must have predictive capability • Must be aggregated according to mobility, deployment, employment requirements • Must reflect levels and thresholds for meeting tasking and improving proficiency • Must be capable of showing performance trends in exercise and training modes • Must reflect tasking limitations on a weapons system and supporting resources • Must be current and immediately available • Repeatable, consistent • Must be structured for flexibility and must accommodate changing tasking • Must reflect actuals and operational resources, not authorizations or assignments • Ordered by GCC level; ordered by pilot and crew member, ordered by kind of sortie; ordered by individual capability to use a specific type of sortie or configuration • Maintenance skills ordered by unit and squadron and technician • Aggregated weekly, monthly, quarterly, yearly • Accommodate changes in plans and schedules, to include the crisis mode for planned exercises and major deployments • Accommodate unscheduled change to combat and crisis mode of operation • Complete detail available • Immediately accessible • Projections as needed

TABLE 3-5: MANAGE WING OPERATIONS (TFW) (Continued)
(DAY-TO-DAY)

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
		INFORMATION	P
CONTROL USE OF RESOURCES (A4) <ul style="list-style-type: none"> What sortie schedule best uses flying hours? What training is needed to achieve required proficiency? What are current training priorities? What kind of sortie training is best to achieve a specified capability? How can wing (squadron crew member) best use sorties? How does daily activity affect war reserves? What daily commitments (requirements) cannot be met, given current resources? Are support resources adequate to meet flying and maintenance schedules? What are shortfalls in current wing resources that could cause delays and detract from desired capability? How can the best cooperation and coordination among wing components or from outside wing support be achieved (Exercise, training)? What are daily accomplishments and how do they meet weekly, monthly, and yearly objectives? How to allocate resources to meet requirements? What lateral support should be requested? When? 	<ul style="list-style-type: none"> Flying hour allocation per year UTE Rates (use of sorties) Sortie duration (depending on range location), number of sorties per month to be flown, sorties by mission and weapon Known taskings, commitments (JCS directed) AGS down days (operational maintenance days) Weekly take off times Range times GCC level to be met Flying schedule Maintenance schedule Functional check flights TCTO's, preventive maintenance required Collateral check rides (Air to Ground) (Air to Air) Quarterly tanker allocations Training accomplishments Ordnance on target Number of sorties Target array Ranges Ordnance frag Airspace for training Supply status (parts, spares, key parts) Repair status (equipment - both major and support) Job control status (on board), CP status (on board) Expediter communications at parked aircraft Dispatcher communications to Job Control from writeups and discrepancy reports at flight line from pilots, weapons officer, or maintenance chief. 	<ul style="list-style-type: none"> Current level of proficiency for each crew member - by individual, crew, squadron, and wing (to include special capabilities) Current skill level of maintenance technicians by individual, squadron, and wing (to include special skills on weapon systems) Training requirements outstanding for each crew member and technician Accomplishments in maintenance and flying activity Shortfalls in flying and maintenance training Status of equipment in repair Status of spares Availability of crew members, maintenance crew members, and support personnel Scheduled maintenance and flying activity (daily, weekly, monthly, yearly) Shortfalls in meeting commitments and daily schedule Supply shortfalls and expected fill date or replenishment of stocks Alternative scheduling possibilities (needed when unpredicted requirements or unscheduled events occur) Crew rest status of pilots, load crews, and other critical personnel Location of wing resources (worldwide) Overages - manpower, material, excess capabilities by function, multi-use equipment, and cross training opportunities 	<ul style="list-style-type: none"> Available to CC - R Available as needed Status near real time Clearly show amount to resource Allow rapid decision wing and to outside training Allow simple transfer levels and to sister Access to inventory Must have project Prefer output that other wing systems Must be relative to making

(Continued on next page)

CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
	INFORMATION	PROPERTIES
<p>per year</p> <p>per</p> <p>per on range</p> <p>times per month</p> <p>mission and</p> <p>elements (JCS</p> <p>status</p> <p>resource required</p> <p>to (ground)</p> <p>key parts)</p> <p>both major</p> <p>CP status</p> <p>at parked</p> <p>to Job Control</p> <p>reports at</p> <p>weapons officer, or</p>	<ul style="list-style-type: none"> • Current level of proficiency for each crew member - by individual, crew, squadron, and wing (to include special capabilities) • Current skill level of maintenance technicians by individual, squadron, and wing (to include special skills on weapon systems) • Training requirements outstanding for each crew member and technician • Accomplishments in maintenance and flying activity • Shortfalls in flying and maintenance training • Status of equipment in repair • Status of spares • Availability of crew members, maintenance crew members, and support personnel • Scheduled maintenance and flying activity (daily, weekly, monthly, yearly) • Shortfalls in meeting commitments and daily schedule • Supply shortfalls and expected fill date or replenishment of stocks • Alternative scheduling possibilities (needed when unpredicted requirements or unscheduled events occur) • Crew rest status of pilots, load crews, and other critical personnel • Location of wing resources (worldwide) • Overages - manpower, material, excess capabilities by function, multi-use equipment, and cross training opportunities 	<ul style="list-style-type: none"> • Available to CC, RM, DO, DCM, CSG, and staffs • Available as needed • Status near real time • Clearly show and pinpoint shortfalls (detailed to resource) • Allow rapid decisions and communications within wing and to outside support (e.g., SAC AR training) • Allow simple transmission to higher command levels and to sister wings • Access to inventory line items, when needed • Must have projection and predictive capability • Prefer output that can be used for input to other wing systems or reports • Must be reliable for compressed decision making

TABLE 3-5: MANAGE WING OPERATIONS (TFW) (Continued)
(DAY-TO-DAY)

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
		INFORMATION	
OBTAIN RESOURCES (A3) <ul style="list-style-type: none"> What is currently available aircrew inventory? What is the condition (GCC level) of each pilot in a unit? Do present manning and projected required manning meet unit tasking from HQ TAC? What are manning shortfalls? Degree, level? Thresholds? Any alternatives? Can deployment and mobility support resources meet weapon system generation and delivery required? If not, what are shortfalls? What are MAC/SAC support requirements? Can they be satisfied? What additional supplies must be requisitioned and sustained to meet tasking? What budget category authorizations are below wing resource requirements to meet tasking? How much will capability to meet tasking commitment degrade from any budget cuts? What significant changes should be requested in budget inputs? 	<ul style="list-style-type: none"> Unit inventory and status of resources Authorized stock, supplies, manning, PAA Airlift and AR support data Unit tasking and requirements Unit performance history Previous budgets Previous requests 	<ul style="list-style-type: none"> Status of available maintenance units (and technicians) Status of available equipment and supplies to support weapons system, ordered by PAA Break rates, trends from use of equipment Performance criteria for mission critical resources (mobility, deployment, generation, employment) Consumption rates of supplies and equipment (peacetime and projected wartime) Augmentation inventory, status, and performance criteria Sister wing resources available to support wing program Thresholds shown in terms of ability to meet projected wartime commitment Commitments to provide support to sister wings, guard, and reserve units 	<ul style="list-style-type: none"> Aircrews sorted by proficiency level, currency ANG, AFRES and active resources Maintenance (AF: wing, special attr) against mobility n Readily accessible Readily accessible trend information Consistent structure arrangement Unified language, by various function Easily compared: stated as actuals, authorized and actual revealed and show cargo increments accountability tra Expressed in doll
REPORT TO WING AND HQ TAC (A5) (not a management activity or a decision) (A function of CP)	(Not relevant) (CP is the information exchange for wing resource data, day-to-day CP relays information)	(Not relevant, controllers do not make decisions for CC, CV, DO, DCM, RM, and CSG)	(As required, and ac

READINESS MEASUREMENT REQUIREMENTS

INFORMATION

- Status of available maintenance units (and technicians)
- Status of available equipment and supplies to support weapons system, ordered by PAA
- Break rates, trends from use of equipment
- Performance criteria for mission critical resources (mobility, deployment, generation, employment)
- Consumption rates of supplies and equipment (peacetime and projected wartime)
- Augmentation inventory, status, and performance criteria
- Sister wing resources available to support wing program
- Thresholds shown in terms of ability to meet projected wartime commitment
- Commitments to provide support to sister wings, guard, and reserve units

(Not relevant; controllers do not make decisions for CC, CV, DO, DCM RM, and CSG)

PROPERTIES

- Aircrews sorted by specified pilot, proficiency level, sorties accomplished, currency
- ANG, AFRES information comparable to active resources
- Maintenance (AFSC) by name, level, unit for wing, special abilities; capability to match against mobility manpower position
- Readily accessible historical files
- Readily accessible and accurately computed trend information
- Consistent structure, indexing, ordering and arrangement
- Unified language, not codes, easily understood by various functional area users
- Easily compared to authorized resources, always stated as actuals; a sharp distinction between authorized and actuals (assigned) must be revealed and shown; capability to match with cargo increments for loading, packing, cargo, accountability transfer.
- Expressed in dollars and resources

(As required, and according to regulation.)

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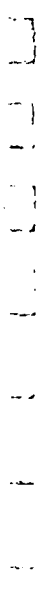


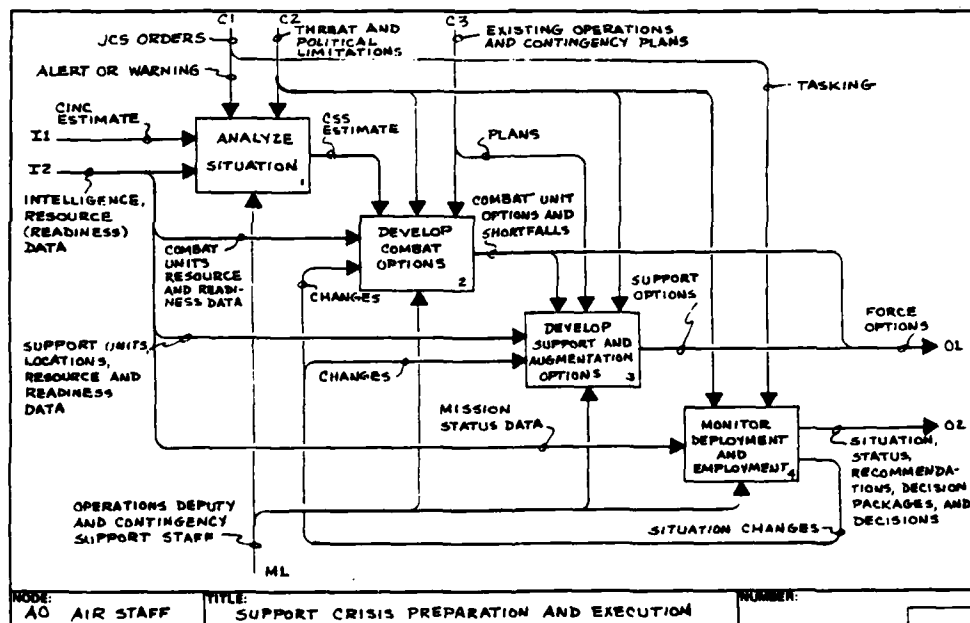
TABLE 3-6. SUMMARIZED CRISIS (CONTINGENCY) MANAGEMENT REQUIREMENTS

FUNCTION SUPPORTED		
ANALYZE REQUIREMENTS	IDENTIFY AND SELECT UNITS AND RESOURCES	MONITOR AND MANAGE
CONTENT	TIMING	FORMAT
<ul style="list-style-type: none"> • Must be presented at a level of detail appropriate to the decision being made • Must relate readiness (capability) to specific tasking, i.e., must be scenario sensitive • Must depict the interdependencies of resources that are required for successful accomplishment of tasking • Must identify and quantify shortfalls (limiting factors) • Must specify assumption on which assessments are made 	<ul style="list-style-type: none"> • Must be available for formulating options and preparing for decisions • Near real-time currency of unit capability information 	<ul style="list-style-type: none"> • Must provide a quick grasp of situation • Must represent a coordinated picture of Air Force or aggregation required • Must be unambiguous to any user

3.4.1 Air Staff Decisions

The Air Staff has no command authority; however, the Headquarters Air Force Contingency Support Staff (CSS) has an advisory and coordinating role in a crisis situation. It supports the Air Force Chief of Staff by developing combat options (box 2) and support and augmentation options (box 3) and by providing information on the status of deployment, employment, and engagement (box 4).

The Air Staff CSS must gather and analyze a great deal of readiness information quickly (box 1). Consequently, the CSS needs near real-time information in a format that permits quick assessment so that vital decisions can be made. In developing feasible options, the CSS does not require up to the minute reports on the status of specific aircraft by tail number. It does, however, require current information on unit readiness to perform tasking. It requires the ability to quickly determine the unit(s) that can best perform or support the mission(s) being considered.



**TABLE 3-7: SUPPORT CRISIS PREPARATION AND EXECUTION (AIR STAFF)
(CONTINGENCY)**

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
		INFORMATION	PROPERTIES
<p>DEVELOP COMBAT OPTIONS (A2) DETERMINE MISSION REQUIRED (A21)</p> <ul style="list-style-type: none"> • Mission(s) required which will best meet objective 	<ul style="list-style-type: none"> • Probable Threat • Objective of Mission • Employment Location (FOB, COB, target) Terrain Weather • Range (Distance) 	(Information given)	(Information given)
<p>SELECT WEAPONS SYSTEM (A22)</p> <ul style="list-style-type: none"> • Weapons system most capable of performing required mission 	<ul style="list-style-type: none"> • Overall MDS Capability • Munitions Capability of MDS • Employment Site Data Airfield Status Logistics Support 	<ul style="list-style-type: none"> • Condition of employment site (available NAV aids, runway conditions) • Available support equipment, maintenance equipment 	<p>Concurrently with mission requirements</p>
<p>IDENTIFY CANDIDATE UNITS (A23)</p> <ul style="list-style-type: none"> • Available units with required weapons system most capable and prepared to perform specified mission 	<ul style="list-style-type: none"> • Identified Units by MDS • Units' Capability DOC Special Capabilities Priority List of Training • Readiness of Units C Rating % Resource Fill Shortfalls 	<ul style="list-style-type: none"> • Units' capability expressed as what is going to be done (e.g., launch X sorties by type in Y hours to perform Z mission) • Capability computed based on actual or anticipated tasking • Prediction of capability at anticipated launch time • Shortfalls What resource is short How many are needed Where can more be found Overages • Complete matching of all expression of capability (DOC, special capabilities, actual training levels) to specific requirements of mission 	<ul style="list-style-type: none"> • Accurate enough to distinguish best suited units from others • Complete information on other • Always available • Information sorted by unit type, primary cap (DOC), special • Information must be verifiable performance during OR exercise within reason • Information capture must allow all units to permit comparison of units
(Continued on next page)			

(STAFF)

READINESS MEASUREMENT REQUIREMENTS	
INFORMATION	PROPERTIES
<p>(Information given)</p> <ul style="list-style-type: none">● Condition of employment site (available NAV aids, runway conditions)● Available support equipment, maintenance equipment● Units' capability expressed as what is going to be done; e.g., launch X sorties by type in Y hours to perform Z mission● Capability computed based on actual or anticipated tasking● Prediction of capability at anticipated launch time● Shortfalls<ul style="list-style-type: none">What resource is shortHow many are neededWhere can more be foundOverages● Complete matching of all expression of capability (DOC, special capabilities, actual training levels) to specific requirements of mission	<p>(Information given)</p> <p>Concurrently with mission required</p> <ul style="list-style-type: none">● Accurate enough to distinguish best-suited units from others● Complete information in one format● Always available● Information sorted by command, location, MDS, primary cap (DOC), special capability● Information must be verifiable. Must track to performance during ORI, exercises, and crisis within reason● Information capture must be synchronized for all units to permit comparison and selection of units

TABLE 3-7: SUPPORT CRISIS PREPARATION AND EXECUTION (AIR STAFF) (Continued)
(CONTINGENCY)

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
		INFORMATION	PROPERTIES
DEVELOP SUPPORT AND AUGMENTATION OPTIONS (A3) <ul style="list-style-type: none"> Required support and means to provide it 	<ul style="list-style-type: none"> Travel Probable Other Threats Restrictions <ul style="list-style-type: none"> Overflight Rights Political Implications Resource Status Data Time Phased Force Deployment List Weather 	<ul style="list-style-type: none"> What resources are available at employment site Resources required but not possessed by units MAC units' capability expressed in terms of airlift support to be supplied: e.g., provide X tons capacity at candidate locations in Y hours to be carried Z miles SAC units' capability expressed in terms of refueling support to be supplied: e.g., provide X pounds at Z location at P time Shortfalls of supporting units: <ul style="list-style-type: none"> What resources are short How many are needed Where can more be found 	<ul style="list-style-type: none"> Must express support readiness resource, how many or how far where Information must be accurate enough to establish feasibility, improved accuracy and currency when unit(s) are actually tasked Near real time information is of threat changes in contingency Near real time
MONITOR DEVELOPMENT, EMPLOYMENT (A4) <ul style="list-style-type: none"> Decide additional units needed, solve problems, and resolve deficiencies Compare situation to plan Remedy shortfalls 	<ul style="list-style-type: none"> Type of Aircraft Command Location Mission Capability Total # of Units Total # of Aircraft Status of support resources from functional area briefings Sitreps and message updates from Major Commands (attritions, problems, threat changes, transferred equipment, accomplishments) 	<ul style="list-style-type: none"> Information must depict the changing composition of forces as units are deployed, employed, and engaged in combat Distinction between committed and uncommitted units and aircraft Identity of units and aircraft that may be tasked to fill shortfalls 	<ul style="list-style-type: none"> Data capture must be synchronized comparison Information must be current enough to highlight critical events for correct Chief of Staff, JCS, NCA Information must reveal committing additional units to meet or additional threats

AIR STAFF) (Continued)

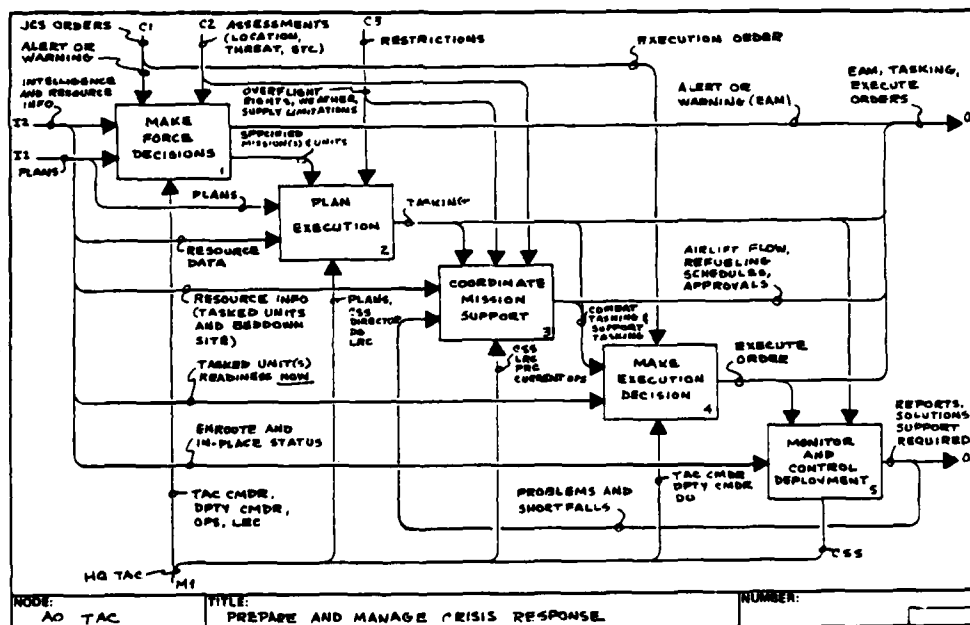
FLY	READINESS MEASUREMENT REQUIREMENTS	
	INFORMATION	PROPERTIES
<p>at List</p> <p>m func</p> <p>m Major s, threat</p>	<ul style="list-style-type: none"> • What resources are available at employment site • Resources required but not possessed by units • MAC units' capability expressed in terms of airlift support to be supplied: e.g., provide X tons capacity at candidate locations in Y hours to be carried Z miles • SAC units' capability expressed in terms of refueling support to be supplied: e.g., provide X pounds at Z location at P time • Shortfalls of supporting units: What resources are short How many are needed Where can more be found • Information must depict the changing composition of forces as units are deployed, employed, and engaged in combat • Distinction between committed and uncommitted units and aircraft • Identity of units and aircraft that may be tasked to fill shortfalls 	<ul style="list-style-type: none"> • Must express support readiness in terms of what resource, how many or how much, when and where • Information must be accurate and current enough to establish feasible options; improved accuracy and currency requirement when unit(s) are actually tasked • Near real-time information is required because of threat changes in contingency • Near real-time • Data capture must be synchronized for valid comparison • Information must be current enough to highlight critical events for corrective action by Chief of Staff, JCS, NCA • Information must reveal consequences of committing additional units to meet threat changes or additional threats

3.4.2 Tactical Air Command Decisions

A JCS alert or Warning Order activates the Contingency Support Staff at HQ TAC. Upon receiving notional tasking, HQ TAC must specify what must be done and who will be ordered to do it (box 1). The employment location, location of units with necessary MDS, and the readiness of candidate units drive the selection of Tactical Fighter Squadron(s) that will be tasked.

HQ TAC has command authority to order combat units to mobilize, deploy, and employ, depending on the location. The specific activities of HQ TAC CSS are a function of "which hat" the TAC Commander is wearing in a given crisis situation. As CINCAFRED, the CSS is concerned with deployment. In planning deployment (box 2), the CSS must not only plan getting the selected unit to the employment site but must also ensure that enough resources are taken along to sustain that unit as a fighting force for a specified period of time. (This does not include prepositioned items or shipped-in munitions.) HQ TAC CSS must ensure (or request) that all necessary resources, not processed by the selected unit, are provided at the time required. This includes resources to be provided by other TAC units as well as airlift support from MAC and refueling support from SAC (box 3).

At the time the final execution decision is made (box 4), the Commander at HQ TAC must know exactly how ready the tasked units are to carry out the tasking. It is critical that this go, no-go decision be based on near real-time accurate readiness assessment.



**TABLE 3-8: PREPARE AND MANAGE CRISIS RESPONSE (HQ TAC)
(CONTINGENCY)**

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS INFORMATION	REQUIREMENTS
<p>MAKE FORCE DECISIONS (A1)</p> <ul style="list-style-type: none"> Determine TAC unit most capable of performing required mission 	<ul style="list-style-type: none"> OPLANS and Contingency Plans Intelligence MDS performance criteria Employment Site Assets (COB, MOB, FOB, BARE BASE) TFS's Resource Data TFS's Readiness Data Locations MANFOR LOGDET WRM Reports 	<ul style="list-style-type: none"> TFSs sorted and ranked by specific mission capabilities (DOC, special capability, actual training levels) Accurate prediction of units' capability at anticipated launch time based on actual anticipated tasking TFS's readiness expressed in terms of actual tasking (e.g., launch X sorties by type in Y hours to perform Z missions) Resources available at employment site must be known very early. Drives all resource development planning at TAC and Wing level 	<ul style="list-style-type: none"> Must be accurate a units that can perform Information must allow comparison MDS Information must counts
<p>PLAN EXECUTION (A2)</p> <ul style="list-style-type: none"> Develop and issue combat and resource support tasking within Tactical Air Command 	<ul style="list-style-type: none"> OPLANS and contingency plans Selected wing resource data Other TFW's resource data Wing identified shortfalls Weather 	<ul style="list-style-type: none"> Complete profile of selected unit's resource status as applies to performing anticipated tasking Shortfalls based on <ul style="list-style-type: none"> What resource(s) are short How many (or how much) are needed Resource data for uncommitted TFSs. (Can required resource(s) be made available to tasked TFS in time for this mission?) Coordinated plan for accomplishment of mission and schedule of events Assessment of all tasked unit(s)' readiness to perform tasking? 	<ul style="list-style-type: none"> Resource information because resource status Must have detailed sources to fill short Resource data for a accessible and sortie location
<p>COORDINATE MISSION SUPPORT (A3)</p> <ul style="list-style-type: none"> Specify and request resource support from other MAJCOMs and agencies 	<ul style="list-style-type: none"> Resource information Shortfalls Transportation and fuel requirements Supply and beddown requirements Overflight requirements Loading requirements 	<ul style="list-style-type: none"> Air Refueling data Load requirements Supplies required and not possessed 	<ul style="list-style-type: none"> Resource data must compare known quantity required

(Continued on next page)

SE (HQ TAC)

TA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
	INFORMATION	PROPERTIES
Contingency Plans	<ul style="list-style-type: none"> • TFSs sorted and ranked by specific mission capabilities (DOC, special capability, actual training levels) 	<ul style="list-style-type: none"> • Must be accurate and current enough so that only units that can perform tasking are selected
Criteria	<ul style="list-style-type: none"> • Accurate prediction of units' capability at anticipated launch time based on actual anticipated tasking 	<ul style="list-style-type: none"> • Information must be synchronized for all units to allow comparison and ranking of TFSs with same MDS
Assets (COB, MOB, FOB)	<ul style="list-style-type: none"> • TFS's readiness expressed in terms of actual tasking: e.g., launch X sorties by type in Y hours to perform Z missions 	<ul style="list-style-type: none"> • Information must be based on accurate resource counts
Data	<ul style="list-style-type: none"> • Resources available at employment site must be known very early. Drives all resource development planning at TAC and Wing level 	
Shortfalls		
Contingency plans	<ul style="list-style-type: none"> • Complete profile of selected unit's resource status as applies to performing anticipated tasking 	<ul style="list-style-type: none"> • Resource information must be very current because resource status is volatile
Resource data		<ul style="list-style-type: none"> • Must have detailed resource data to identify sources to fill shortfalls
Shortfalls	<ul style="list-style-type: none"> • Shortfalls based on <ul style="list-style-type: none"> What resource(s) are short How many (or how much) are needed • Resource data for uncommitted TFSs. (Can required resource(s) be made available to tasked TFS in time for this mission?) • Coordinated plan for accomplishment of mission and schedule of events • Assessment of all tasked unit(s)' readiness to perform tasking? 	<ul style="list-style-type: none"> • Resource data for all TFWs must be quickly accessible and sorted by resource type, status and location
Location	<ul style="list-style-type: none"> • Air Refueling data 	<ul style="list-style-type: none"> • Resource data must be readily available to compare known quantity available to known quantity required
Load requirements	<ul style="list-style-type: none"> • Load requirements 	
Supplies required	<ul style="list-style-type: none"> • Supplies required and not possessed 	
Down requirements		
Requirements		
Elements		

TABLE 3-8: PREPARE AND MANAGE CRISIS RESPONSE (HQ TAC) (Continued)
(CONTINGENCY)

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
		INFORMATION	PRC
MAKE EXECUTION DECISION (A4) <ul style="list-style-type: none"> Decide GO or NO GO 	<ul style="list-style-type: none"> Tasked unit readiness NOW Support unit readiness NOW Combat and support tasking 	<ul style="list-style-type: none"> Yes or No: Can tasked squadron(s) meet tasking? If no, what are problems and alternative solutions? 	<ul style="list-style-type: none"> Very accurate assessment to perform tasking at Near realtime data on aircraft generation
MONITOR AND CONTROL DEPLOYMENT (A5) <ul style="list-style-type: none"> Provide maintenance, supply support, and command and control 	<ul style="list-style-type: none"> Enroute status of squadron(s) Enroute support team updates Supplies (status) In place unit status Problems, aborts 	<ul style="list-style-type: none"> Incomplete deployments (aborts, etc.) 	(Not known)

SE (HQ TAC) (Continued)

CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS	
	INFORMATION	PROPERTIES
• NOW • NOW • tasking • squadron(s) • updates	<ul style="list-style-type: none">• Yes or No: Can tasked squadron(s) meet tasking?• If no, what are problems and alternative solutions?• Incomplete deployments (aborts, etc.)	<ul style="list-style-type: none">• Very accurate assessment of tasked unit(s)' ability to perform tasking at the specified times• Near realtime data on squadron mobilization and aircraft generation (Not known)

The primary job of a Tactical Fighter Squadron is to execute combat operations in an assigned theater of operations. As soon as an alert or warning condition follows an event, a squadron or unit receives orders to get ready to deploy, eventually deploy, and ultimately employ its weapons systems. To define its job, the squadron or unit is driven by tasking and HQ TAC orders (box 1). Given the tasking, wing and squadron managers must see that squadron and unit resources are assembled, generated, and sometimes sustained (box 2). Management decisions require precise, error free information about what is happening in operations, mobility, and maintenance (box 4) in order to coordinate and synchronize the functions of the wing components.

When the HQ TAC tasking order arrives (box 2), management can decide what resources will be deployed, formalize plans, and issue aircraft generation and launch orders (box 2). HQ TAC then issues an execute order that activates the actual mobilization and the deployment. When deployment is complete, units may regenerate and employ; or they may wait for an order to employ; or they may not employ. Whatever the situation may be, the unit must be sustained. Needs, problems, and accomplishments are constantly reported from the unit managers to the Commander and his staff, likewise from the wing to HQ TAC (box 3). In this way, constant awareness and response to needs are achieved.



**TABLE 3-9: RESPOND TO CRISIS (TFW)
(CONTINGENCY)**

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIRE	
		INFORMATION	
<p>DETERMINE WHAT RESOURCES NEEDED TO GENERATE A/C AND MOBILIZE, GIVEN HQ TASKING (A1)</p> <ul style="list-style-type: none"> • Whether or not wing can meet tasking. • If not, what alternative tasking can be met? • How many weapon systems can be delivered given current status of wing? • How long any shortfalls will delay launch? 	<ul style="list-style-type: none"> • PAA required, time required to deploy • Threat assessments and intelligence data • Preplanned UTC data; MAC data for mobility; SAC data for AR • Checklists of emergency action procedures • Contingency plans for wing • Aircrews: training (GCC level, sorties flown); current status and availability • MX crews trained and available • Aircraft status, mission capability • WRSK status and WRM status • C ratings and % fill of units • Personnel status and availability <p>Note: These are candidates until Execute order arrives from HQ TAC.</p>	<ul style="list-style-type: none"> • Number of weapon systems that can be deployed and employed • Fastest possible launch time to meet tasking • Which shortfalls require additional support outside wing • When can the shortfall be resolved within the wing • What shortfalls are irreconcilable 	<ul style="list-style-type: none"> • Immediately a response to tasking • A detailed explanation is needed to resolve shortfalls • This information is needed for commitments • Must be central commander and DCM, CVI for • Concise, easily understood, among wings • Near real-time
<p>ASSIGN RESOURCES TO BE DEPLOYED (A2)</p> <ul style="list-style-type: none"> • Given frag order to execute from HQ TAC, what crews, personnel, and equipment will deploy and when? 	<ul style="list-style-type: none"> • Aircrews and MX crews available and status • Status of ANG, AFRES, mobility personnel, supplies • C ratings and % fill data for major equipment, training, personnel, supplies • Status of available aircraft • Flight plan and schedules for launch and flow 	<ul style="list-style-type: none"> • Mobility posture of wing • Deployment posture of wing • Shortfalls resulting from assignment 	<ul style="list-style-type: none"> • Composite status of mobility start • Sorted by user hand (RM, DC) • Cross reference among levels of command
<p>ORDER SQUADRONS TO LAUNCH (A24)</p> <ul style="list-style-type: none"> • Whether wing resources are prepared to deploy on time and are fully equipped. • Whether limiting factors prohibit departure of UE tasked. 	<ul style="list-style-type: none"> • FAA clearances • SAC/MAC concurrence - AR control time, Airlift departures • Vertical worksheets consisting of crew names, tail #s, take-off times, A/C flow, MX schedules for A/C generation, weapon configuration • Flight plan • Frag. orders to units, aircrew names, call signs, take-off times 	<ul style="list-style-type: none"> • Current status of resources selected for deployment • Actual aircrews and aircraft ready to launch • Limitations, delays, updates, perturbations • Shortfalls weighted and pinpointed that inhibit or delay any launch or take-off • Support system status for airlift arrival 	<ul style="list-style-type: none"> • Immediately a launch until • Available to all simultaneously

(Continued on next page)

FUNCTIONAL AREA	READINESS MEASUREMENT REQUIREMENTS	
	INFORMATION	PROPERTIES
Deployment Performance data Data for Procedures Parties Priority Ability Execute order Role and status Ability personnel Major equipment Launch and flow Control time Of crew A/C flow Weapon Names, call	<ul style="list-style-type: none"> Number of weapon systems that can be deployed and employed Fastest possible launch time to meet tasking Which shortfalls require additional support outside wing When can the shortfall be resolved within the wing What shortfalls are irreconcilable Mobility posture of wing Deployment posture of wing Shortfalls resulting from assignment Current status of resources selected for deployment Actual aircrews and aircraft ready to launch Limitations; delays, updates, perturbations Shortfalls weighted and pinpointed that inhibit or delay any launch or take-off Support system status for airlift arrival 	<ul style="list-style-type: none"> Immediately available to allow a "go", "no-go" response to tasking A detailed explanation of why not, why, what is needed to resolve problem This information must be available to satisfy time commitments of wing to be deployed Must be centralized and available to wing commander and his immediate staff (RM, DO, DCM, CV) for coordination and response Concise, easily and quickly reportable to HQ and among wings Near realtime currency is necessary Composite status of wing, MAC, SAC, from mobility start up to deployment and employment Sorted by user and his orientation to tasking at hand (RM, DO, DCM) Cross referenced among functional areas and among levels of command Immediately updated and current throughout launch until enroute (deployment) (employment) Available to all mobility and deployment managers simultaneously

TABLE 3-9: RESPOND TO CRISIS (TFW) (Continued)
(CONTINGENCY)

ACTIVITY OR DECISION	DATA CURRENTLY USED	READINESS MEASUREMENT REQUIREMENTS INFORMATION	PROPER
<p>DETERMINE RESOURCES NEEDED FOR AUGMENTATION OR REGENERATION (A1), (A12), (A13)</p> <ul style="list-style-type: none"> • Whether or not augmentation crews, aircraft, and equipment can meet the requirement • How many fully equipped weapon systems will deploy • When they will launch 	<ul style="list-style-type: none"> • Remaining resources not deployed - aircrews, A/C, WRSK, WRM, supplies, support personnel available, MX crews and equipment available for continued generation • Condition of resources • Time required to deploy 	<ul style="list-style-type: none"> • Same as for initial tasking of resources • Threat change impacts on mission and weapon system configuration • Capability to respond to additional tasking and sustain generation of A/C • Time required to deploy augmentees • Status and shortfalls at deployment and employment sites • Location, condition, and amount of support available from sister wings, time required to deliver to tasked wing 	<ul style="list-style-type: none"> • Exact counts and amount • Condition of A/C and crew (current and target well) • Available to all inventory • Immediate updates as resources employed or attrited
<p>MONITOR MOBILIZATION, DEPLOYMENT, AND EMPLOYMENT (A3)</p> <ul style="list-style-type: none"> • What shortfalls require immediate resolution • What modifications are necessary to maintenance or flying schedule • Whether or not to abort mission • How much time is required to satisfy tasking if modifications are ordered • What is the severity of any impact on A/C generation or mobilization • Best choice of support that may be required external to wing 	<ul style="list-style-type: none"> • A/C launched, time, status • Problems, delays, discrepancies • Mission status and crew status • Progress, accomplishments against commitment • Arrival times, schedules, flow • AR completions, aborts • Resources accounted for • Condition of resources at deployment site (employment site) 	<ul style="list-style-type: none"> • Location and status of all A/C being deployed, employed • Augmentation required • Shortfalls - delays, aborts, unpredicted problems, damages • Non-usable equipment and supplies • Alternatives available • Time required to solve problems • Must weight shortfalls and be capable of presenting alternatives, given a decision or resource change 	<ul style="list-style-type: none"> • Exact and precise for use • Immediate access by user • Reported as occurs and as • Detailed to tail number, personnel, skill level, item • Cannot be estimated gross • Must be unambiguously s • Must show impacts on m • Must be actual, not plan • Must be verifiable at sou

LY	READINESS MEASUREMENT REQUIREMENTS	
	INFORMATION	PROPERTIES
<p>aircrews person avail</p> <p>inst</p> <p>loyment site</p>	<ul style="list-style-type: none"> • Same as for initial tasking of resources • Threat change impacts on mission and weapon system configuration • Capability to respond to additional tasking and sustain generation of A/C • Time required to deploy augmentees • Status and shortfalls at deployment and employment sites • Location, condition, and amount of support available from sister wings, time required to deliver to tasked wing • Location and status of all A/C being deployed, employed • Augmentation required • Shortfalls: delays, aborts, unpredicted problems, damages • Non-usable equipment and supplies • Alternatives available • Time required to solve problems • Must weight shortfalls and be capable of presenting alternatives, given a decision or resource change 	<ul style="list-style-type: none"> • Exact counts and amounts of resources available • Condition of A/C, aircrews, MX units, equipment (current and "get well" times) • Available to all involved wings and HQs • Immediate updates as expended, assigned, employed, or attrited • Exact and precise for user comprehension • Immediate access by user • Reported as occurs and apparent in status change • Detailed to tail number, crew member, assigned personnel, skill level, item identifier • Cannot be estimated grossly • Must be unambiguously stated • Must show impacts on mission • Must be actual, not planned or preplanned • Must be verifiable at source

SECTION 4 - ASSESSMENT OF READINESS MEASUREMENT METHODS

4.1 Historical Perspective

Since 1947, Air Force managers have realized that some method of assessing Air Force capability is essential. Simple inventory counts of resources were all that was available early in the history of the Air Force. The realization of the need for a more meaningful expression of Air Force capabilities led to the development of "C" ratings in the mid 1950's. This began a continuing quest for improved capability assessment which resulted in refinements to existing systems and in the development of new systems. Such systems as the Force Status and Identity Report (FORSTAT), Unit Capability Measurement System (UCMS), and the Unit Status and Identity Report (UNITREP) are all outgrowths of this evolution. Most of these systems follow the same tack of measuring available resources versus authorized resources. Although this is an improvement over simple resource counts, the increasing complexity of weapon systems, variety of wartime scenarios, and decreasing response times have strained the utility of this approach. The Air Force has responded by developing more sophisticated modeling techniques for performing capability assessment and force structure analysis; however, each model is designed for specific analysis and cannot be used for routine day-to-day management of resources or crisis response. With the emphasis on readiness NOW, the Chief of Staff of the Air Force has recognized the need and directed the development of a responsive readiness assessment system.

4.2 Current Readiness Concepts

Although there are many notions of readiness, the most widely understood and used concepts are embodied in the FORSTAT, UCMS, and UNITREP systems. In these systems, resources are divided into four "measured" areas: equipment/supplies, training, personnel, and aircraft. The authorized types and quantities of resources for a unit are determined by the Designed Operational Capability (DOC) statements of a particular unit. In other words, the unit is configured to best support notional mission tasking such as air to air, air to ground, air interdiction, etc., according to its DOC. As a measure of unit readiness, the percent fill is computed as: available resources divided by authorized resources. This computation is made for each resource area at unit

level, the unit generally meaning wing or squadron. The percent fill is then translated to "C"-ratings of C1 through C4. Under this scheme, C1 is considered satisfactory (able to perform its DOC mission statement), and C2, C3, and C4 represent progressively reduced capability to perform the DOC.

The basic data for these systems is reported by the units to their Major Command where the "C"-rating is determined. The major command then reports the data to the Joint Chiefs of Staff and Headquarters Air Force. Although the system cannot be accessed from the lowest level (other than for data input and correction), some benefits are derived at the lowest level from collecting and preparing the data. Primarily, it forces a regular and disciplined review of unit resource status.

The data base created from these reports is used at the major commands and at Headquarters, Air Force. Uses are essentially the same at both levels. Daily reports are reviewed by area specialists to determine if adverse trends are developing. During crisis, units are reviewed by DOC to determine which may be able to respond to the crisis. Those units having the required DOCs are then screened for C1 or C2 status. The data are also used to make periodic force readiness presentations to senior staff members at both MAJCOM and HQ USAF. For these presentations, aggregates of the data are made over an interval of time to show the percent of time a unit, or weapon system has maintained C1 or C2 status. The presentation is divided into the categories of weapon system, resource area, and major command to allow a variety of comparisons. The emphasis is on long term trends.

4.3 Limitations and Deficiencies of Current Methods

The preceding concept of readiness is not the only one. A quick review of Current Definitions of Readiness Terms in Appendix B reveals numerous and often inconsistent connotations and definitions of readiness existing in the Department of Defense including the Air Force. The confusion created by this situation is compounded by the methods used to compute readiness. Each system or technique used today to compute readiness is unable by itself to fully evaluate capability, whether it is individual, unit, or force capability.

Determining what is specifically wrong with this situation is not an easy exercise. Insight may be gained by examining some readiness measurement considerations such as the utility of the readiness metric and the fidelity and coherence of the measurement.

4.3.1 The Metric

The resource areas reported - equipment/supplies, training, personnel, and aircraft - do not adequately reveal the specific combat capability of a weapon system. Treated independently, one resource area is one part of the complete readiness profile of a weapon system. A commander needs to know exactly how many combat ready weapon systems he has and whether or not they can perform the sorties required for a specific type of mission. Today, this sortie metric is not directly available.

The four resource areas, graded C1 - C4 and percent fill, do not necessarily indicate or take into consideration the specific mission or tasks that are required to respond to a specific ongoing crisis or other residual capabilities. Although the primary and secondary DOCs are clearly defined, the units also possess a wide variety of capabilities to perform other missions. Therefore, if a unit is judged solely by a general standard rather than what it may be specifically tasked to do at a given time, the C1 - C4 or percent fill may not be enough to evaluate the unit's ability to respond to this crisis. Since the DOC is not always what is asked for in actual tasking, it also may not address the generation time required in the actual tasking.

Measurement based on a DOC does not allow for situations when a unit may not be tasked exactly according to its DOC. Only by consulting individual Wing Commanders may a determination be made that a unit that is C4 or C3 according to its DOC can carry out the immediate task in "C1" fashion. This alternative is not always possible or timely, as in cases where limited participation and visibility are desired in exploring alternatives.

The percent fill expression obscures the details that a commander should know when he must commit a unit to perform a task. What concerns a commander is whether or not what he has can do the job, not the relationship of his actual resources to his authorized resources.

Measuring the percent fill of each resource area may produce a very low C rating because the unit is deficient in one area. For instance, a wing which measured low in equipment and supplies but measured high in all other areas may have several possible capabilities. The available equipment and supplies may be used to generate 24 aircraft, each 98% ready or 22 aircraft each 100% ready and 2 aircraft each 80% ready. The determination of what capability actually exists under these circumstances is not an easy one to make and depends on a substantial degree of subjectivity.

Readiness measurements are also required for other uses. To develop and defend the Program Objective Memorandum and the Budget, the Air Staff requires readiness information that would show the impact of budget decisions and resource allocation decisions on Air Force readiness. In preparing reclamation to the Office of Secretary of Defense, Office of Management and Budget, and Congress, Air Staff should show specific readiness implications of changing funding levels. For example, if budget cuts occur causing a mandatory 10% reduction in flying hours for training, what is the readiness impact? On the other hand, how much would an increase allowing 10,000 additional training flying hours improve readiness?

Current readiness measurements do not reflect the impacts of such decisions on the resources involved. It would be difficult, if not impossible, to correlate trends in C-ratings or percent fill to changes in funding levels.

We have seen that these measurements are being used to answer the question - what can I do with what I have? The previously discussed measures only provide indirect inputs to the answer. There is no directly measured force output metric such as sortie.

4.3.2 Fidelity

Another set of problems associated with current readiness measurements is centered on the unpredictable fidelity of the readiness measurements. (For the purpose of this discussion, fidelity includes the properties of completeness, precision, timeliness and synchronization.) Current readiness measurements only address the four major areas of aircraft, personnel, training, and supplies and equipment. There are many resources critical to sortie production not addressed in these measurements. Additional resources include such things as munitions; petroleum, oil, and lubricants; and facility oriented resources such as ramp space, static maintenance facilities, navigation aids, and communications. This list is only representative of the additional data required to determine sortie production. It is not complete.

The precision of readiness data may be established by reviewing actual data and the data collection process. Review of the data reveals occurrences of impossible or unlikely situations. Distortions also occur when existing units are not reported and nonexistent units are reported. Data collection depends on the collection criteria established in a large set of complex decision tables. Personnel must assemble the raw data and then make judgements based on the decision table criteria. This process is subject to many errors for several reasons: The person calculating the input may or may not have been on duty over the period the data were collected. Therefore, he may not have the necessary information to correctly make all the decision table judgements. In the best of circumstances, this process is time consuming and complex. There is not always sufficient time or motivation to do a thorough job. The opinions and attitudes of most wing personnel about readiness reporting is that it is "up-channel" in nature, that is, there is not a two-directional flow of information.

Some data producers at wing can prepare readiness information while they are generating other reports and simply make copies of the same data on an additional form. For the majority, however, readiness reporting and calculations are work in addition to regular reporting, such as preparing the standup briefings and documentation required within a functional area.

The timeliness of data is related to its use. A wing or squadron commander and management staff require detailed information about the present situation. Current readiness measurements offer these people no support because of the data base age. The age of the current data base is suitable for observing historical performance and for assessing long term trends, but these can only be done at the major commands and Air Staff. This readiness data base is of little value during crisis not only because completeness and precision are lacking but also because the data do not reflect the present status. The data may be as much as three days old. Most crisis decisions require the availability of detailed, timely data.

Synchronization must be addressed in terms of readiness measurement data; other resource data available in the functional areas of logistics, personnel, and operations; and tasking. Attempts to use these data sources to corroborate each other or to extend the usefulness of each are made very difficult or impossible because no synchronized timing criteria are present.

4.3.3 Coherence

Finally, there is no capability to present a coherent readiness picture at any level in the Air Force. There is no visible method presently being used to bring together all the facets of readiness to reveal their interdependencies and combined effect on readiness. If this capability exists, it is something that is done in the minds of commanders and managers. When subjective judgements are dominant, as in the example of a low C rating in equipment and supplies, coherency is lost. If the wing commander makes the judgement of changing the computed C rating, would he consistently arrive at the same rating given the same inputs at different times? Would several different wing commanders arrive at the same answer given the same information? Since there is very little formal structure to these decisions, it is unlikely that the answers are yes. Therefore, it is difficult to predict the repeatability of the readiness measures and the believability of trend information based on them. The current readiness measurements and functional area reporting provide very weak support to a coherent understanding of Air Force readiness.

4.4 Readiness Measurement Needs

Readiness measurement needs may be determined by comparing the information requirements of readiness information users (described in Section 3) with the assessment of readiness measurement methods presented thus far in this section. A study of these sections reveals the need for a set of methods, procedures, and supporting facilities that will eliminate or reduce the existing limitations and deficiencies and provide the needed capabilities. A method of deriving all levels of tasking (i.e., force structure, Operations Planning, and Air Tasking) in terms of sorties is required so that the readiness measurement current capability can required capability be made. This measurement becomes the core of readiness measurement. Combined with associated information, it can be used to support the decisions outlined in Section 3.

To achieve this kind of readiness measurement, certain procedures, methods, or processes must be improved or provided. First, a change in source data collection methods is required. Methods should be used that can be made timely and accurate and that present the least inconvenience to the person or activity responsible for reporting the data. Second, capability should exist to transform the data into useful readiness information that presents a coherent picture of Air Force readiness, using an objective criteria such as production of a specific type of sortie. This will require facilities to filter, mask, synchronize, correlate, collate, integrate, and calculate on the data. Third, methods should be defined to represent the data and information to the user in a form that is most meaningful for his purpose.

SECTION 5 - CONCLUSIONS

The existing Air Force methods of measuring readiness must be improved to satisfy the current needs of readiness information users. Improvements in data collection, readiness computation, information presentation, information quality and usefulness, and timeliness are greatly needed. Although Air Force readiness measurement has been constantly refined over the years, rapid advances in weapon sophistication and time compression in war scenarios have heightened the demand for readiness information products. As a result, the current readiness information methods have become seriously deficient in their ability to accurately and coherently indicate force readiness as well as unit readiness. Principal deficiencies are:

1. Current methods are not tasking-based. A readiness information system does not exist that states the ability of a unit to perform a specific task or specific sortie type.
2. Data inaccuracies occur because data producers do not have proper tools, motivation, or the capability to audit their inputs.
3. The timeliness of readiness information does not meet utility requirements. Delays in readiness information reaching users when they need it are caused by data inaccessibility, age, and lack of synchronization.
4. There is no uniformity in the expression of readiness. The content of current readiness information is obviously not satisfactory to users. They are forced to supplement, verify, and validate by phone. They must also translate, convert, and modify data to satisfy individual requirements.

These deficiencies are of such a profound nature that they cannot be remedied by simply improving existing methods. To remedy these problems, the AFIRMS program must devise a uniform, commonly understood measure of unit readiness to perform specific tasking; it must also provide useful measurement tools and coherent informational products to both its users and data producers.

Preceding sections of this document have established the need for AFIRMS. Readiness information requirements, not solutions, have been derived from analyzing the management of the Tactical Air Command as well as the decision-making process in response to a contingency. These readiness information requirements were contrasted with current readiness measurement concepts and methods, the differences discussed, and the needs enumerated.

Given the need to satisfy AFIRMS requirements, how then should those requirements be satisfied? Three alternative approaches are:

- Full Development

Work on the development of a fully operational AFIRMS might now proceed. This could be the shortest path to realizing AFIRMS; it certainly carries the greatest risk. Cost, benefit, schedule, and technological unknowns are great.

- Classical Prototype Development

A limited AFIRMS Initial Operating Capability (IOC) could be developed, evaluated, refined, and subsequently replicated and deployed into a fully operational system. This approach contains the same benefit and schedule risks as proceeding with full development, but does reduce the cost risk.

- Learning Prototype Phase Preceding Full Development

This novel approach would first demonstrate the feasibility of satisfying AFIRMS requirements and would then specify system and performance requirements before proceeding to develop an operational system. This preliminary learning period would reduce the cost, benefit, and scheduling uncertainties associated with proceeding with full-scale development. The goal of this approach is to define an operational AFIRMS. This definition will then be used for acquisition of the operational system.

The need for AFIRMS is real and immediate. What remains to be done is to establish the feasibility of satisfying current readiness information requirements, to provide an accurate economic analysis of the operational AFIRMS, and then to proceed with development of an operational AFIRMS.

SECTION 6 - RECOMMENDATIONS

Although the deficiencies of current readiness measurement methods have been presented and remedies postulated, certain questions remain unanswered: the feasibility of providing the necessary methods and supporting facilities; the relative value of varying degrees of completeness, precision, and timeliness; and a narrow bound on the cost of implementing a selected system using modern technology. An approach to answering these questions before beginning the implementation of an operational AFIRMS is needed. A novel, but sound, Learning Prototype Phase (LPP) approach is recommended.

This AFIRMS Learning Prototype Phase, through continued close interaction with the user (HQ USAF and elements of the Tactical Air Command), and through "hands-on" trial of alternative tools and products, should answer those remaining questions.

The major LPP products should be: (1) A final, detailed Functional Description (FD) of AFIRMS, based on the most pragmatic kind of judgement by the user -- judgement based on "hands-on" experience, (2) a complete functional specification, independent of vendor product line; and (3) a Data Automation Requirement (DAR) document for an operational system, with supporting economic analysis, a feasible schedule, and high-confidence estimates for acquisition cost and costs of ownership.

To develop these products, the AFIRMS LPP should proceed as follows:

1. Formulate an operational concept for the use of AFIRMS products based on this FAR.
2. Define specific AFIRMS readiness measurement products relying on user guidance and preference for form, content, and other attributes.
3. Derive prospective methods for collecting, processing, and presenting products based on product definitions.
4. Select, build, test, and evaluate alternative tools and products through user participation.
5. Introduce no cost improvements in existing methods or products where appropriate.

6. Evaluate costs, benefits, and uncertainties of alternative methods of providing products.
7. Select "best" alternative and develop specifications and performance requirements for operational system.

The scope of the AFIRMS LPP should be limited to the level of effort, equipment, and facilities needed to answer the major feasibility, benefit, and cost questions that will be considered by the Air Force in selecting an "appropriate" operational AFIRMS configuration. All effort should be directed toward the application of existing technology to answer those questions. A period of twenty-four months should be sufficient for accomplishment of the objectives of the LPP.

An experimental facility, distributed among HQ USAF, HQ TAC, and one or more TFWs, will be required to support the "hands-on" test and evaluation of alternatives by users. The equipment requirements might consist of two geographically separated minicomputers with appropriate mass storage devices, user terminals, and various data entry devices. The complete hardware and software configuration will be dictated by the data collection, processing, and presentation alternatives developed during the LPP. All hardware and, to the extent possible, major software components (operating system, data base management system, etc.) should be off-the-shelf from reliable vendors.

In summary, an AFIRMS Learning Prototype Phase, or limited "fly before buy", is pragmatic, feasible, and essential to the attainment of AFIRMS goals.

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APPENDIX A

AFIRMS READINESS MEASUREMENT DEFINITIONS

APPENDIX A
DEFINITION OF READINESS-RELATED TERMS FOR
READINESS MEASUREMENT PURPOSES

The word "readiness" has numerous definitions and connotations within the Department of Defense and even within the Air Force. The definitions presented in this appendix to the AFIRMS Functional Area Requirement are the ones adopted for the AFIRMS program. These definitions are being revised, based on comments from readers, as this document goes to print. The revised Air Refueling and Airlift definitions are the first refinements of the readiness definitions presented in the Draft FAR. Other refinements will be published in an errata supplement.

1. Readiness in Capability Terms

Readiness has meaning only in terms of the ability to perform a mission. Mission requirements are specified in assigned tasking. Tasking may take the form of an OPLAN, Frag Order, or Flying Schedule. Capability is defined as the ability to perform assigned tasking. Capability can be expressed in units of measurement such as sorties. We define

$$\text{readiness as } \frac{\text{capability available}}{\text{capability specified}}$$

where capability specified is the capability required by the tasking, and capability available is the capability the assigned unit can actually deliver.

2. Readiness and Effectiveness

Effectiveness is used to describe the capability of responding to a threat. Readiness, in the AFIRMS sense, does not directly consider threat. It is assumed that the threat has been considered in the tasking. We define

$$\text{effectiveness as } \frac{\text{capability available}}{\text{capability required}}$$

where capability required is the capability necessary to reach or maintain a designated condition - survivability of the unit, sustainability of the current level of operation, or superiority over the enemy - in consideration of the known threat. Effectiveness is more difficult to compute than readiness, and AFIRMS does not propose to include effectiveness estimation.

3. Readiness and Sustainability

We define sustainability as the capability available for a duration of time under specified conditions (e.g., no resupply). The core of sustainability is the same as the core of readiness, namely the capability available. Readiness is closely related to sustainability. AFIRMS will support the estimation of sustainability, but will not directly measure sustainability.

4. Further Definition of Capability

Earlier, capability was discussed in terms of sorties. A sortie is defined as a mission-ready aircraft with a qualified aircrew, properly configured, supported, and controlled to accomplish a stated mission (Letter of Agreement between CINC PACAF, COMTAC, and CINCUSAFE, 2 December 1976). The sortie type must be specified in the tasking. Thus, a sortie is a mission ready MDS appropriately configured with the necessary skills of a qualified aircrew and the appropriate mix of weapons and ordnance, complimented with the required ground support, equipment, and skilled personnel, and controlled to accomplish the assigned tasking.

5. Definition of Readiness Information

Based on our definition, capability can be expressed simply, for example, the number of sorties available to perform a certain task. However, this capability is difficult to measure. We cannot easily count the number of close-air support sorties available. We can, however, measure the resources available or the aircrew skills available for specified, close-air support at a certain location and within a certain timeframe. A readiness product is the result of the measurement of a resource, such as aircrews, maintenance crews, aircraft, air refueling support, or airlift support in a certain posture. A product can contain raw data or information (processed data). Given many products, we can derive a readiness assessment of the capability available. This assessment is readiness measurement information. An estimate of capability available can be constructed using computational procedures (not yet defined).

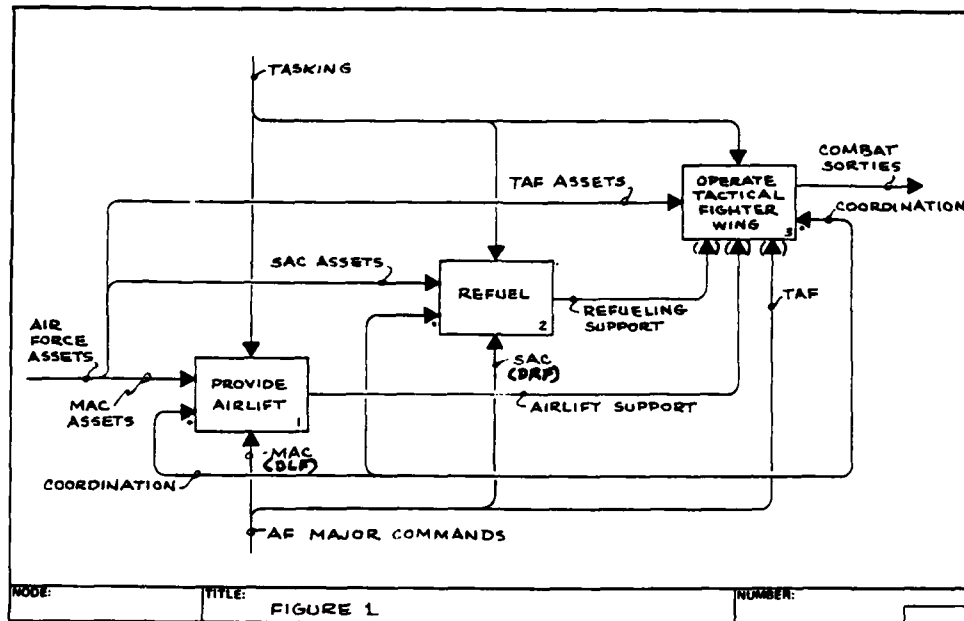
The following example gives a rationale for tasking-based readiness measurement rather than a resource count, or percent-fill measurement of readiness. Assume three resources, A, B, and C, must be present for a sortie to be possible.

	Measure	Report	Measure	Report
First Base	A B, B C	1 Sortie	A B, B C	1 A 2 B 1 C
Second Base	A B C	1 Sortie	A B C	1 A 1 B 1 C
Third Base	A C	0 SORTIE Limited by B	A C	1 A 1 C
		Capability Based Report	Resource Count Based Report	
		2 Sorties, Limited by B at the Third Base	3 A's, 3B's, 3 C's	

As shown, tabulating resource counts not only fails to reveal the capability of three bases to meet the specified tasking, but also the data needed to determine base three's problems have been washed out when the data are aggregated. The tasking-based measure integrates the base data into information about combat readiness expressed in specified sortie types.

6. Components of Readiness

As can be seen from Figure 1, TAF depends on support from other Air Force components for Airlift and Air Refueling support.



MAC provides products to the TAF that are the output of the airlift mission. For purposes of AFIRMS, the MAC output for the TAF is called a Deliverable Load Factor_(x) or DLF_(x). The subscript x will either be T, representing tons; P representing passengers; or C, representing specified cubic loads. For example, one DLF_(T) could be 20 tons, all palletized, with no outsized cargo; one DLF_(P) could represent a passenger seat. A requirement statement could be 15 DLF_(T) from Base A to Base B with arrival NLT C hours/E date. We define

$$\text{airlift readiness as } \frac{\text{DLF}_{(x)} \text{ available at some time}}{\text{DLF}_{(x)} \text{ specified}}$$

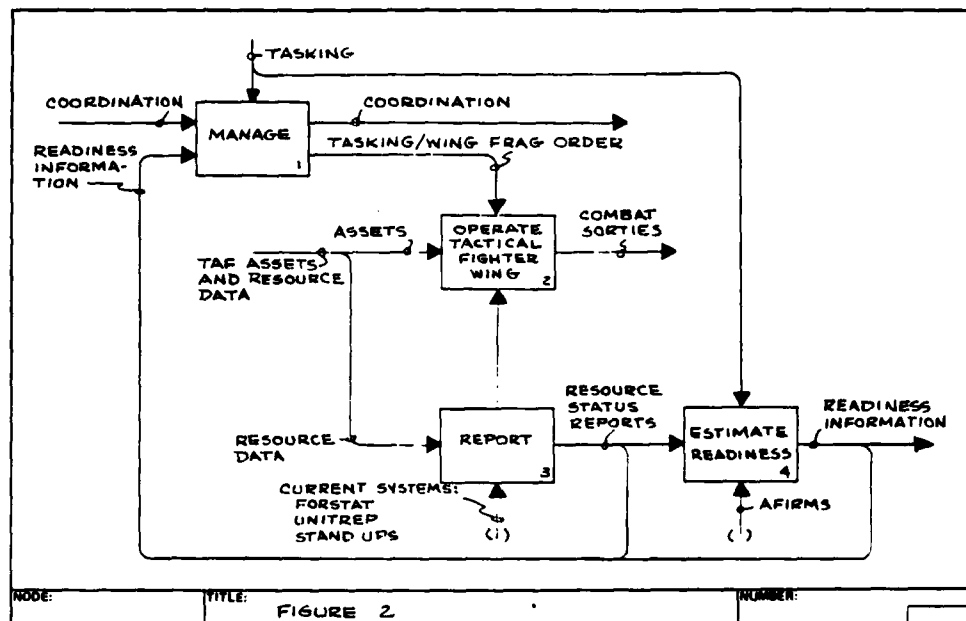
where DLF_(x) available are those DLF_(x) made available to the TAF by MAC, and DLF_(x) specified are the DLF_(x) the TAF needs to complete its tasking. Note that from the MAC point of view, DLF_(x) available are actually the DLF_(x) allocated, i.e., that portion of MAC capability allocated to the TAF.

SAC provides products to the TAF that are measurable output of the tanker mission. For purposes of AFIRMS, the SAC output for the TAF is called a Deliverable Receiver Fill(x) or DRF(x). The subscript x identifies the MDS of the receiver aircraft. One DRF(x) implies only a single tanker and a single receiver, each ready to execute the fuel transfer. DRF(x) is expressed in # of pounds of fuel and the time required to transfer the fuel. For example, one DRF(F4) could be defined as 15,000 pounds of fuel in 15 minutes. In the planning context, this will allow the user (receiver) to express requirements as # of DRF(x) required, at a specified place, date, and time window. Since the DRF(x) only includes one tanker and one receiver, the supplier (SAC) can determine both the number of pounds of fuel to be delivered and the number of tankers required to execute that number of DRF(x) within the specified time window. Note that DRF(x) does not include the transfer of fuel, only the ability to transfer fuel. We define

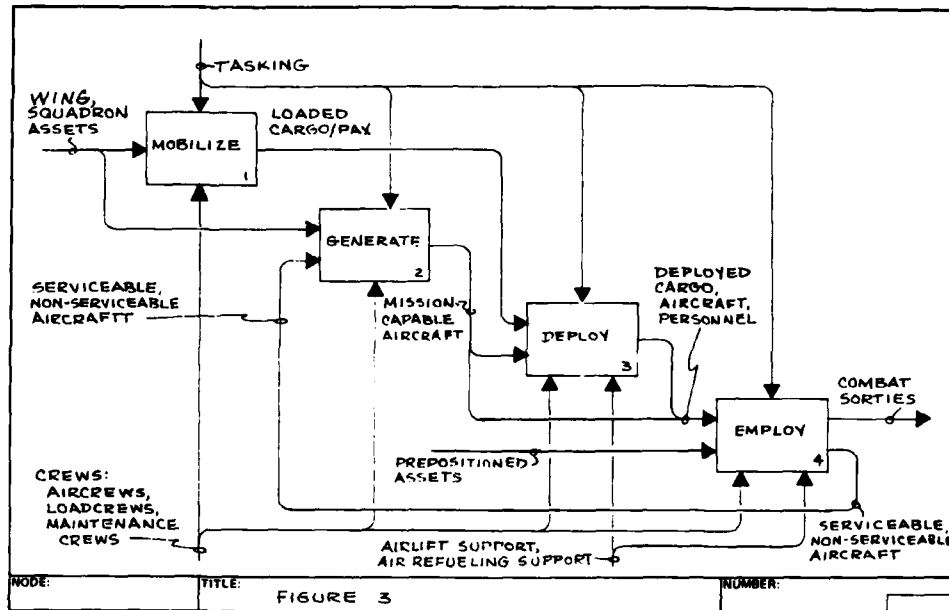
$$\text{air refueling readiness as } \frac{\# \text{ DRF}(x) \text{ available}}{\# \text{ DRF}(x) \text{ specified}}$$

where DRF(x) available are those DRF(x) made available to TAF by SAC, and DRF(x) specified are those DRF(x) needed by TAF to complete the mission. As with MAC's view of ton miles, SAC DRF(x) does not imply the transfer of fuel, only the ability to transfer fuel.

Figure 2 depicts the major functions of a tactical fighter wing. See Models 5, 6, 7 in Appendix D for details. Figure 2 shows the relationship of "Estimate Readiness" (box 4) to management and operations functions. Notice that Box 3 reporting supports Box 2 operations. Essentially, the job of estimating readiness implies a conceptual model of an operating tactical fighter wing to understand the relationships among unit resources.



Operating a wing can be thought of in terms of four major functions shown in Figure 3. Figure 3 is a decomposition of Box 2, Figure 2. "Estimate Readiness" requires defining the readiness components of each of these functions: mobilize, generate, deploy, and employ.



APPENDIX B
CURRENT DEFINITIONS OF READINESS TERMS

APPENDIX B

CURRENT DEFINITIONS OF READINESS TERMS

A sampling of readiness definitions and readiness-related terms used within the Department of Defense is presented to further emphasize the need for uniformity and understanding among users of readiness information. Comparing the terms used within various organizations shows disparity. Different readiness connotations appear, depending on the organization or origin of terms. Precision and clarity are needed among and within organizations. This compilation was extracted from "Glossary of Readiness and Readiness-Related Terms and Definitions", Office of the Assistant Secretary of Defense, 15 August 1978.

JCS READINESS TERMS AND DEFINITIONS

AIR DEFENSE READINESS (DOD, IADB) - An operational status requiring defense forces to maintain higher than ordinary preparedness for short periods of time (JCS Pub 1).

COMBAT READINESS (DOD, IADB) - Synonymous with "operational readiness," with respect to missions or functions performed in combat (JCS Pub 1).

COMBAT READINESS RATING CODES (C-RATINGS) -

- C-1 Fully ready: A unit fully capable of performing the mission for which it is organized or designed.
- C-2 Substantially ready: A unit has minor deficiencies which limit its capability to accomplish the mission for which it is organized or designed.
- C-3 Marginally ready: A unit has major deficiencies of such magnitude as to limit severely its capability to accomplish the mission for which it is organized or designed.
- C-4 Not ready: A unit not capable of performing the mission for which it is organized or designed.

C-ratings are computed and reported separately for each of the following four resource areas and additionally as a composite of the four areas.

PERSONNEL - This measured resource area rating will compare personnel assigned strength against the authorized strength of the organization being rated. Consideration should be given to the availability of key and critical specialties and personnel distribution by categories and/or grades.

EQUIPMENT/SUPPLIES ON HAND - This measured resource data rating will compare equipment and supplies on hand (regardless of operational readiness) against the authorization for the organization being rated. Equipment and supplies to be considered are those determined by the cognizant Service to be necessary for the organization to perform its mission.

EQUIPMENT READINESS - This measured resource area rating will compare the equipment operationally ready against the authorization for the organization being rated. Equipment to be rated and standards of equipment operational readiness will be determined by the cognizant Service.

TRAINING READINESS - This measured resource area rating will compare the present level of training against the standard for fully trained organizations. Results of training inspections/tests, operational readiness inspections/tests, and technical proficiency inspections will be considered in the evaluation of the organization's training rating. An organization engaged in combat should not have the rating for this area reduced solely because it is unable to participate in scheduled inspections/tests. (JCS Pub 6, pages 2-6-2 through 2-6-5.)

COMBAT READY (DOD, IADB) - Synonymous with "operationally ready," with respect to missions or functions performed in combat (JCS Pub 1).

EQUIPMENT OPERATIONALLY READY (DoD) - The condition status of an item of equipment in the possession of an operating unit which indicates it is capable of fulfilling its intended mission and in a system configuration that offers a high assurance of an effective, reliable and safe performance (JCS Pub 1).

EQUIPMENT OPERATIONALLY READY - (1) Army: Equipment Readiness. Army Equipment Status. Items of equipment which are Equipment on Hand assets, listed in TM 38-750, capable of performing primary mission, and free of factors which may curtail sustained performance. (2) Navy: Equipment is available and in condition to perform the missions or functions for which designed or required. (3) Air Force: The daily projection for equipment of which the status indicates that it is capable of safe use and that mission-essential subsystems, necessary for the performance of the primary missions of the organization to which assigned, are ready. Training is not considered a primary mission for combat and combat support organizations. (4) Marine Corps: An item of equipment operationally ready to the degree that it can perform its assigned mission. Aircraft must be safely flyable and capable of performing one or more (but not necessarily all) of the primary missions of the organization to which assigned (JCS Pub 6, D-5).

MATERIAL READINESS (DOD, IADB) - The availability of material required by a military organization to support its wartime activities or contingencies, disaster relief (flood, earthquake, etc), or other emergencies (JCS Pub 1).

OPERATIONALLY READY (DOD, IADB) - (1) As applied to a unit, ship, or weapon system -- capable of performing the missions or functions for which organized or designed. Incorporates both equipment readiness and personnel readiness. (2) As applied to personnel -- available and qualified to perform assigned missions or functions. (IADB) (3) As applied to equipment -- available and in condition for serving the functions for which designed (JCS Pub 1).

OPERATIONAL READINESS (DOD, NATO, IADB) - The capability of a unit, ship, weapon system, or equipment to perform the missions or functions for which it is organized or designed. May be used in a general sense or to express a level of degree of readiness. (JCS Pub 1).

WEAPONS READINESS STATE (DOD, IADB) - The degree of readiness of air defense weapons which can become airborne or be launched to carry out an assigned task. Weapons readiness states are expressed in numbers of minutes. (JCS Pub 1).

AIR FORCE READINESS TERMS AND DEFINITIONS

COMBAT READY (CR) - A level of readiness which indicates the individual has been certified by the unit of permanent assignment as qualified to perform a specific duty at the necessary level of competence. CR is applicable to all duty positions. (ADCOMR 50-5, Vol II, 1-7).

FULL MISSION CAPABLE (FMC) - To be in this status, an aerospace vehicle must have the systems working to fly all missions under peacetime or wartime conditions (AFR 65-110, interim message change 77-1).

MISSION CAPABLE (MC) - FMC and PMC rates combined (AFR 65-110).

MISSION READY AVAILABLE EQUIPMENT - MAJCOMs have set up a minimum essential subsystems lists (MESLs) by MDS for each DOC mission or GCC level being measured in the UCMS. Weapon systems that are safely flyable under wartime conditions and have the systems on the MESL ... for a mission are "mission ready available" (MRA) for that mission.

NOT MISSION CAPABLE (NMC) - An aerospace vehicle in this status cannot fly any wartime mission. To be in NMC status, an aerospace vehicle with no wartime mission cannot fly any of its assigned missions. (NOTE: Inspections such as preflight and postflight and actions to prepare for flight such as servicing and drag chute installation, are not reported as NMC.) (AFR 65-110, interim message change 77-1).

NOT OPERATIONALLY READY, MAINTENANCE - A condition status of a major item of equipment or weapon system on which maintenance work must be accomplished to return it to an operationally ready condition (AFM 11-1, 2 Jan 76).

NOT OPERATIONALLY READY, SUPPLY - A condition status of an aerospace vehicle or selected item of equipment that is not capable of performing all of its assigned mission(s) due to parts required from supply (AFM 11-1, 2 Jan 76).

OPERATIONALLY READY (OR) - A level of readiness which indicates the individual has been certified by the unit of permanent assignment as qualified to perform all the duties of a WD/WDT/FM/FMT/RICMO/RICMT/ASO/AST and AJO during daily operations without the direct supervision of an instructor (ADCOMR 50-5, Vol II, 1-7).

OPERATIONAL READINESS - The ability of a unit, weapon system, or equipment to perform the wartime mission or functions for which it is organized or designed. This term may be used in a general sense or to express a level or degree of readiness (AFR 123-6, 7 Apr 78).

PARTIAL MISSION CAPABLE (PMC) - To be in this status, an aerospace vehicle must be safely flyable under wartime conditions and have the systems working to fly at least one unit mission under wartime conditions but less than the systems to be FMC. Aircraft with no wartime mission must be able to fly any one mission to be in this status. (Note: Aircraft on alert may be in this status if it can fly the alert mission. In addition, aircraft in precautionary standdown directed by higher authority may be in this category.) (AFR 65-110, interim message change 77-1.)

READINESS - The state of preparedness of an individual, force, or organization for carrying out an operation, mission, task, or the like; combat readiness or operational readiness. Also said of equipment. (USAF Dictionary, 1956 (sic).)

OSD READINESS TERMS AND DEFINITIONS

MATERIAL READINESS - Material is considered ready when it is capable of safe use and the minimum number of subsystems, designated by a Military Department as mission-essential, are installed and operable for the performance of one or more of the primary missions. Mission-essential subsystems are those required to perform the primary-missions, e.g., fire control, sonar, bombing, communications, ECM, radar, etc. (DoDI 7730.25, 1 Feb 72).

NOT OPERATIONAL READY - MAINTENANCE (NORM) - A condition status of material indicating that it is not ready to perform any of its missions because of organizational or intermediate level maintenance requirements. Recording of NORM time shall start when it is first known that the condition exists except when caused by an in-flight malfunction. Then, the time will start at engine shutdown. Time shall stop when maintenance has been completed or is interrupted by work stoppage due to supply shortage. (The period of work stoppage due to supply shall be measured as NORS). NORM time shall resume when required supply items are delivered to the material being repaired (DoDI 7730.25, 1 Feb 72).

NOT OPERATIONAL READY - SUPPLY (NORS) - A condition status of material indicating that it is not operationally ready, because maintenance required to clear a NORM condition cannot be continued due to a supply shortage. Recording of NORS time shall start one hour after: (a) a supply demand has been made for an item(s) required for maintenance, (b) the item(s) is not delivered to the material and (c) maintenance work stoppage results (DoDI 7730.25, 1 Feb 72).

READINESS - The concept that integrates the diverse factors that affect the ability to deploy, engage, and sustain effective combat forces. (Annual Defense Department Report FY 1977).

REDUCED MATERIEL CONDITION (RMC) - A condition status of multi-mission material indicating mission-essential subsystem incapability because one or more are inoperative for maintenance or supply reasons. The Military Departments may further subdivide RMC into maintenance and supply categories, if desired (DoDI 7730.25, 1 Feb 72).

MISCELLANEOUS READINESS TERMS AND DEFINITIONS

READINESS - The capability of some specified force structure (or subset thereof) to do something, somewhere, with some amount of advance notification, and to continue doing it for some period of time. (The "something" for a specific unit is normally the mission(s) for which it was designed, organized, and equipped.) The "readiness" of Defense combat forces thus defined depends on a myriad of diverse and often interrelated factors (DoD Materiel Readiness Report, Feb 78).

READINESS - The quantitative availability and specific condition of personnel and materiel resources, the types and quantities of missions and units/forces are capable of performing in crisis, under what sets of circumstances and for how long.

At least the following information seems necessary ...:

- o Availability (and condition) of materiel and personnel resources;
- o Capability (kinds of activity and levels of performance in crisis, vs. normal peacetime);
- o Deployability;
- o Flexibility (capabilities other than primary);
- o Survivability; and
- o Sustainability

Thus, in addition to information (statistics) of static nature, dynamic information also is required -- the total reporting:

what resources do we have,
what can they do,
at what level,
under what circumstances, and
for how long.

(RAND Working Note, WN-9623-PR, Sept 76.)

READINESS - The difference between requirements and capabilities (CAA Study Report, CAA-SR-76-7, June 76).

TOTAL FORCE READINESS - From my view point, our state of readiness certainly determines how rapidly and with what effect peacetime configured forces can be brought to bear upon various crises or conflict situations. It also includes how long and to what degree our forces can be employed. It embodies the capability to successfully accomplish tasks within a specified time with current resources and management systems (General David Jones quoted in RAND working Note, WN-9632-PR, Sept 76).

AD-A170 529

AIR FORCE INTEGRATED READINESS MEASUREMENT SYSTEM
FUNCTIONAL AREA REQUIREMENT(U) SOFTECH INC FALLS CHURCH
UR* 14 MAR 80 1031-2-5 MDA903-76-C-0396

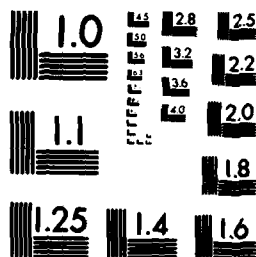
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

JCS READINESS-RELATED TERMS AND DEFINITIONS

ASSIGNED STRENGTH -

- (1) Army -- The number of personnel permanently assigned to an organization except those in a PCS transient status. Personnel temporarily absent (e.g., leave, TDY) are included in assigned strength.
- (2) Navy -- All personnel currently assigned to the organization for duty whether or not on board. This includes personnel from time of reporting to time of detachment from the organization, including those temporarily absent on temporary additional duty or leave. Since personnel transferred on temporary duty are considered a loss to the organization, they will not be included in assigned strength.
- (3) Air Force -- The number of essential personnel (i.e., those personnel possessing skills that are designated essential to the direct accomplishment of the unit's mission) that are assigned and available to support the rated unit.
- (4) Marine Corps -- The total number of personnel chargeable to an organization whether or not on board. MCS P1070.8 (IRAM) defines chargeable. USMCR - (0) - organizations assigned strength will include Class II Assigned, Class II Select, and Inspector-Instructor Personnel.
- (5) Coast Guard -- Same as Navy.

(JCS Pub 6, D-1).

AUTHORIZED STRENGTH

- (1) Army -- That portion of the required manpower which can be supported by allocated manpower and which is reflected in the authorized columns of current or projected authorization documents.

NOTE: For U.S. Army combat readiness reporting on card type K, the following definition applies:

Authorized Strength. Army full TOE/MTOE or structure strength. The full Table of Organization and Equipment (TOE) strength for organizations organized under F and earlier series TOE; level 1 strength for organizations organized under G and later series TOE, as amended by modification TOE (MTOE), DA numbered changes, or other approved additions or deletions. For organizations organized under type B columns of TOE, the type B column is full TOE. For TDA organizations designed to report organization readiness, the authorized column is full TOE.

- (2) Navy -- The current authorization of an organization as indicated in the Allowance column of the Unit Manpower Authorization (OPNAV Form 1000/2). In some instances, the structured strength and the current authorized strength will be identical.
 - (3) Air Force -- The number of essential personnel (i.e., those personnel possessing skills that are designated essential to the direct accomplishment of the unit's mission) that have been authorized by a Manpower Source Listing to support the rated unit.
 - (4) Marine Corps -- That portion of total Marine Corps strength approved by competent authority as the staffing objective for an organization; this will be the manning level unless otherwise specified. T/O strength will normally be reported as authorized strength for USMCR - (0) - organizations.
 - (5) Coast Guard -- The current authorization of an organization as indicated in the personnel allowance list (P-835).
- (JCS Pub 6, D-2).

DEFENSE READINESS CONDITIONS (DoD) - A uniform system of progressive alert postures for use between the Joint Chiefs of Staff and the commanders of unified and specified commands, and for use by the Services. Defense Readiness Conditions are graduated to match situations of varying military severity (status of alert). Defense Readiness Conditions are identified by the short title (DEFCON (5), (4), (3), (2), and (1), as appropriate (JCS Pub 1).

DEPLOYABLE STRENGTH - This strength is an organization's present strength, less those personnel ineligible to deploy in an emergency or crisis situation, based on specific personnel deployment criteria determined in conjunction with the declaration of deployable alert (JCS Pub 6, D-3).

INDUSTRIAL PREPAREDNESS (DoD, IADB) - The state of preparedness of industry to produce essential material to support the national military objectives. (Synonymous with industrial readiness) (JCS Pub 1).

POSSESSED STRENGTH - (1) Army: The operating strength of an organization chargeable against the personnel authorization (TOE or TDA). (2) Navy, Air Force, Marine Corps: Total Military personnel with an organization who are physically present at a specified location or embarked on board a ship (JCS Pub 6, D-8).

READINESS RATING LIMITATION - (1) Army: Army Authorization Level of Organization (ALO). The ALO of an organization is the ratio of authorized manpower spaces to the full MTOE structured spaces, against which an organization is authorized to requisition personnel and equipment. ALO may be expressed in numerical designated levels representing percentages of full MTOE structure spaces. Equipment resources are specified by item for each level of organization. Inherent in the DA approved ALO

for an organization is the stated distribution objective based on programmed capability of the Army to provide assets at the designated level of personnel and equipment. HQDA may, in exceptional circumstances, approve an unbalanced organization in which the authorized level of personnel and the authorized level of equipment will differ. The lower of the two levels of organization will be the "unit readiness level" which is considered supportable with a matching readiness condition (REDCON). ALO-1 organizations do not report a readiness rating limitation. (2) Navy: Restrictions or limitations imposed on allocated resources (personnel, materiel, funds, etc.) of designated organizations by higher authority that will preclude the organization from attaining a status of being fully combat ready (C-1) to perform its wartime mission. (The Navy goal in readiness is normally C-1 in the measured resource areas of Equipment/Supplies on Hand, Equipment Readiness, and Training. However, an implicit limitation exists in the measured resource area of Personnel for those organizations in which a Ship/Aircraft Squadron Manning Document has not been implemented and for those of which the authorized allowance is less than 95% of complement (M+12).) (3) Air Force: The highest rating of composite readiness that an organization can be expected to attain due to a limitation imposed by higher authority (JCS Pub 6, D-9).

AIR FORCE READINESS-RELATED TERMS AND DEFINITIONS

AUTHORIZED STRENGTH - The number of essential personnel (i.e., those possessing skills that are designated essential to the direct accomplishment of the unit's mission) that have been authorized by a Unit Manpower Document (UMD) to support the rated unit (JCS Pub 6, D-2).

ASSIGNED STRENGTH - The number of essential personnel (i.e., those personnel possessing skills that are designated essential to the direct accomplishment of the unit's mission) that are assigned to support the rated unit (JCS Pub 6, D-1).

POSSESSED STRENGTH - Total military personnel with an organization who are physically present at a specified location (JCS Pub 6, D-8).

DLA READINESS-RELATED TERMS AND DEFINITIONS

MILITARY AND CIVILIAN PERSONNEL STRENGTH - This indicator is intended to compare authorized vs. assigned strength. It considers shortages in overall personnel strength, shortages within specific skill groupings or those involving key management or supervisory positions. Evaluate military and civilian strength separately.

MILITARY AND CIVILIAN PERSONNEL TRAINING - The basic consideration here is an assessment of the state of training in relation to the requirement of the duties to which personnel are assigned. The condition may be temporarily affected by skill imbalances or the institution of new equipment, systems or procedures which require a retaining program. Evaluate military and civilian training separately. (DSAR 3135.4, pg 3).

PERCENT STOCK AVAILABILITY - $100 \text{ percent} - (\text{Backorders/Direct Vendor Deliveries Established} / \text{Net Demands}) \times 100$ (DSAM 4140.2, Ch 106, Vol II, Part III, 1 April 75).

STOCK AVAILABILITY AND MATERIEL OBLIGATION TREND - This is a key measurement of DLA's readiness to effectively support the Military Services. For example, a decreasing trend in the percent of stock availability or a rising trend in the number of materiel obligations indicate reduced materiel readiness for the Military Services (DSAR 3135.4, pg 3).

APPENDIX C

HOW TO READ AN SADT™ MODEL

APPENDIX C

HOW TO READ AN SADT™ MODEL

In this document, diagrams like the samples on the right are used to describe system characteristics in levels of increasing detail.

In the diagrams on the right, boxes represent system functions; arrows represent data. As indicated by the shading, a box on the upper diagram is detailed by the boxes and arrows of the lower diagram. Arrows entering and leaving the shaded box are exactly those arrows entering and leaving the lower diagram. Both the shaded box and the lower diagram represent exactly the same part of the system.

Because a box can be detailed with a diagram, a system can be modeled with a set of diagrams. The first diagram of a model represents the system by a single box. The box is detailed with a first-level diagram. Boxes on the first-level diagram can be detailed with second-level diagrams. Continuing this way, a set of diagrams that describe the system to any desired level of detail can be produced.

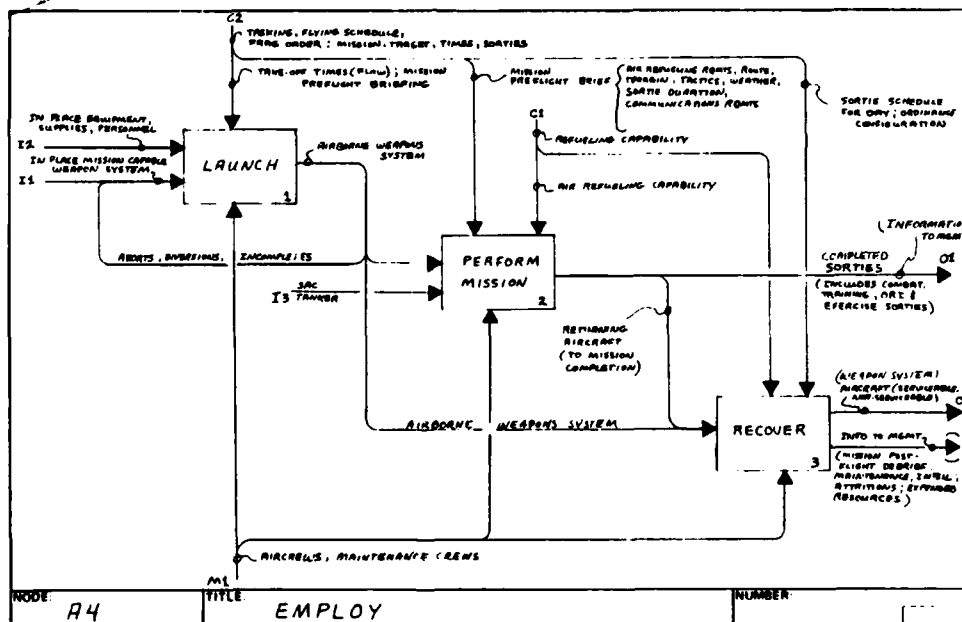
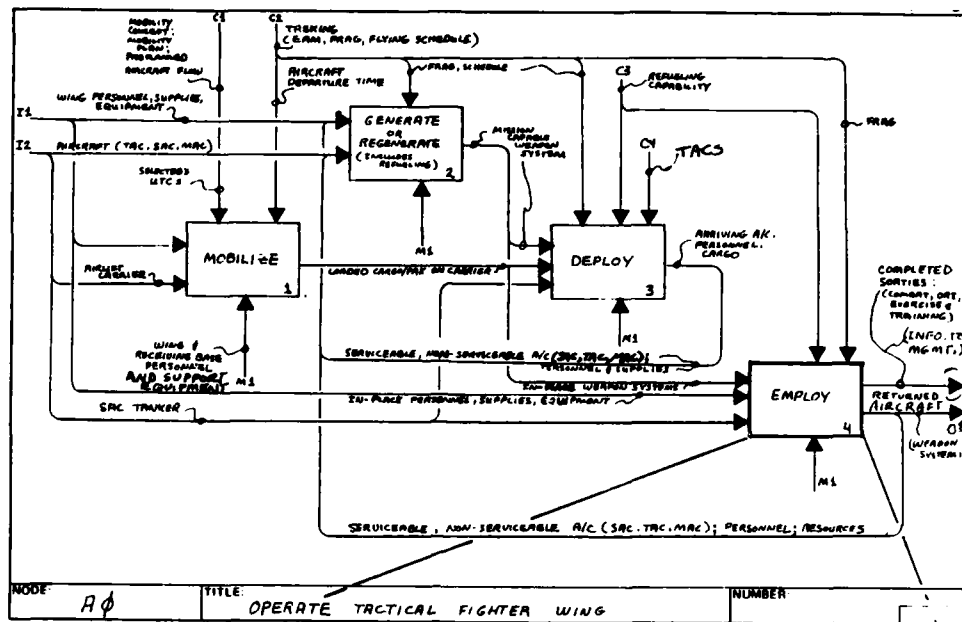
The modeling technique outlined here is based on the Structured Analysis and Design Technique (SADT - a trademark of SofTech, Inc.).

Explanations of key diagram features:

Diagram Number - The node number indicates a diagram's place in a model. A lower diagram's node number is constructed from the node number of the upper diagram by appending the number of the bold box.

Parenthesized Arrows - Parentheses on an arrow's head (or tail) indicate that the arrow's destination (or source) is not sufficiently relevant to be shown on other levels.

Arrow Position - Input arrows enter a box on the left. Output arrows leave a box on the right. Control arrows enter a box on the top. The upward pointing arrows entering the bottom of the box indicate the doer or mechanism of the activity.



APPENDIX D

MODELS

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AIR FORCE MANAGEMENT

(DAY-TO-DAY)

<u>NODE #</u>	<u>SECTION D1 - DAY-TO-DAY</u>	<u>PAGE NO.</u>
A-1	Maintain Air Force Readiness	D-11 (3-8)
	<u>MODEL 1 - AIR STAFF</u>	
A-0	Context: Manage Air Force Resources	D-15
A0	Manage Air Force Resources	D-16 (3-10)
A1	Determine Air Force Resource Requirements	D-17
A11	Plan Force Structure	D-18
A13	Specify Performance and Resource Requirements	D-19
A2	Obtain Resources	D-20
A21	Develop and Defend POM	D-21
A3	Monitor and Manage	D-22
A31	Oversee Operations and Programs	D-23
A33	Respond to Questions and Problems	D-24
	<u>MODEL 3 - TACTICAL AIR COMMAND</u>	
A-0	Context: Manage Tactical Fighter Wings	D-27
A0	Manage Tactical Fighter Wings	D-28 (3-12)
A1	Analyze Requirements	D-29
A2	Develop Plans for Accomplishing Requirements	D-30
A3	Obtain Required Support	D-31
A4	Monitor Performance	D-32
	<u>MODEL 5 - TACTICAL FIGHTER WINGS</u>	
A-0	Context: Manage Wing Operations (Day-to-Day)	D-35
A0	Manage Wing Operations (Day-to-Day)	D-36 (3-14)
A1	Analyze Wing Requirements	D-37
A2	Plan Use of Resources (Long Range)	D-38
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A4	Control Use of Resources	D-40
A5	Report Resources	D-41

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AIR FORCE MANAGEMENT
(CONTINGENCY, CRISIS)

<u>NODE #</u>	<u>SECTION D2 - CRISIS MANAGEMENT (CONTINGENCY)</u>	<u>PAGE NO.</u>
A-1	Plan and Execute Crisis Response	D-45 (3-20)
	<u>MODEL 2 - AIR STAFF</u>	
A-0	Context: Support Crisis Preparation and Execution	D-49
A0	Support Crisis Preparation and Execution	D-50 (3-22)
A2	Develop Combat Options	D-51
A3	Develop Support and Augmentation Options	D-52
A4	Monitor Deployment and Employment	D-53
A42	Examine and Analyze Critical Information	D-54
	<u>MODEL 4 - TACTICAL AIR COMMAND</u>	
A-0	Context: Prepare and Manage Crisis Response	D-57
A0	Prepare and Manage Crisis Response	D-58 (3-26)
A1	Make Force Decisions	D-59
A2	Plan Execution	D-60
A3	Coordinate Mission Support	D-61
A5	Monitor and Control Deployment	D-62
	<u>MODEL 6 - TACTICAL FIGHTER WINGS</u>	
A-0	Context: Respond to Crisis	D-65
A0	Respond to Crisis	D-66 (3-28)
A1	Analyze Wing Requirements	D-67
A11	Activate CSS	D-68
A12	Develop Mobility Concept	D-69
A13	Plan Operations	D-70
A2	Assign Resources	D-71
A3	Monitor Mobilization, Deployment, Employment	D-72

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WING OPERATIONS

<u>NODE #</u>	<u>SECTION D3 - OPERATIONS MODEL</u>	<u>PAGE NO.</u>
	<u>MODEL 7 - TACTICAL FIGHTER WING</u>	
FEO	Reporting Structure	D-75
	<u>MODEL 8 - TACTICAL FIGHTER WING*</u>	
A-0	Context: Operate Tactical Fighter Wing	D-79
A0	Operate Tactical Fighter Wing	D-80
A1	Mobilize	D-81
A12	Marshall	D-82
A13	Load	D-83
A2	Generate (Regenerate)	D-84
A21	Inspect, Account, or Place (Resources)	D-85
A211	Inspect Aircraft	D-86
A22	Maintain	D-87
A23	Configure	D-88
A3	Deploy	D-89
A4	Employ	D-90
A41	Launch	D-91
A42	Perform Mission	D-92
A43	Recover	D-93

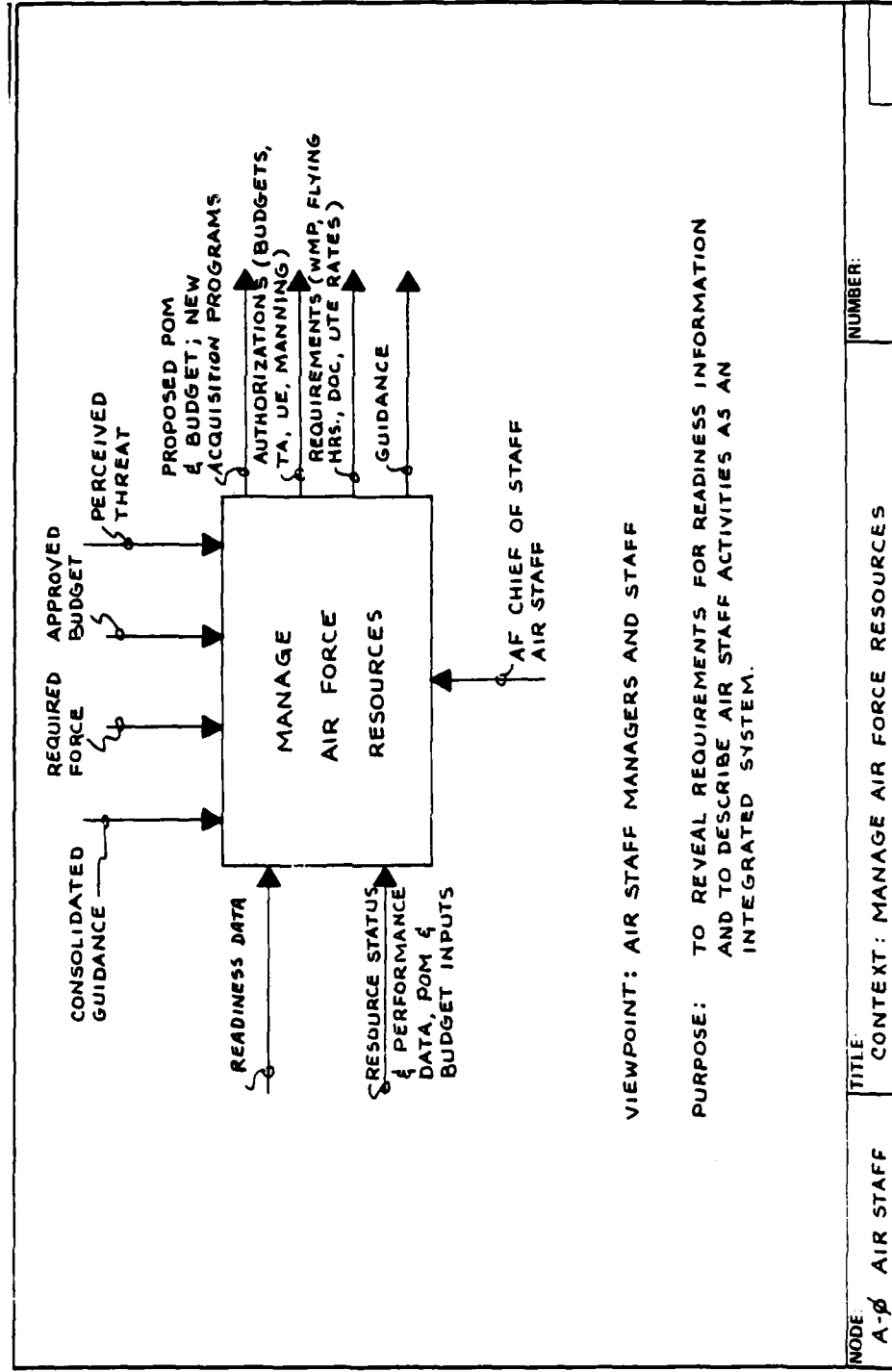
* Note: This model can be activated for: training, exercises, operational inspection, crisis, and war.

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JAN 10 1964
U.S. AIR FORCE
HEADQUARTERS
WASHINGTON, D.C.

SECTION DI
DAY-TO-DAY
MANAGEMENT

MODEL 1 - AIR STAFF
MANAGE AIR FORCE RESOURCES

SECRET

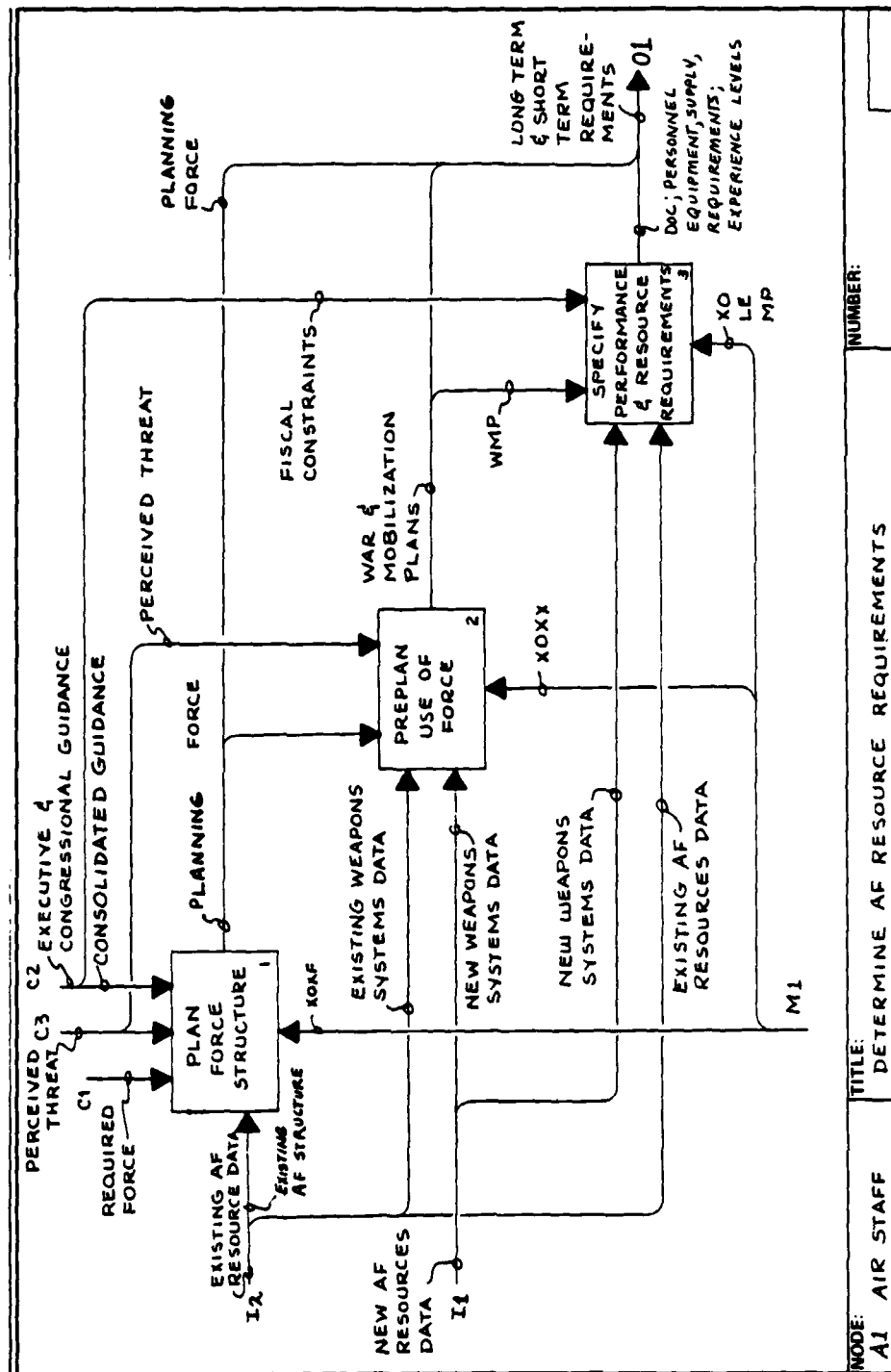


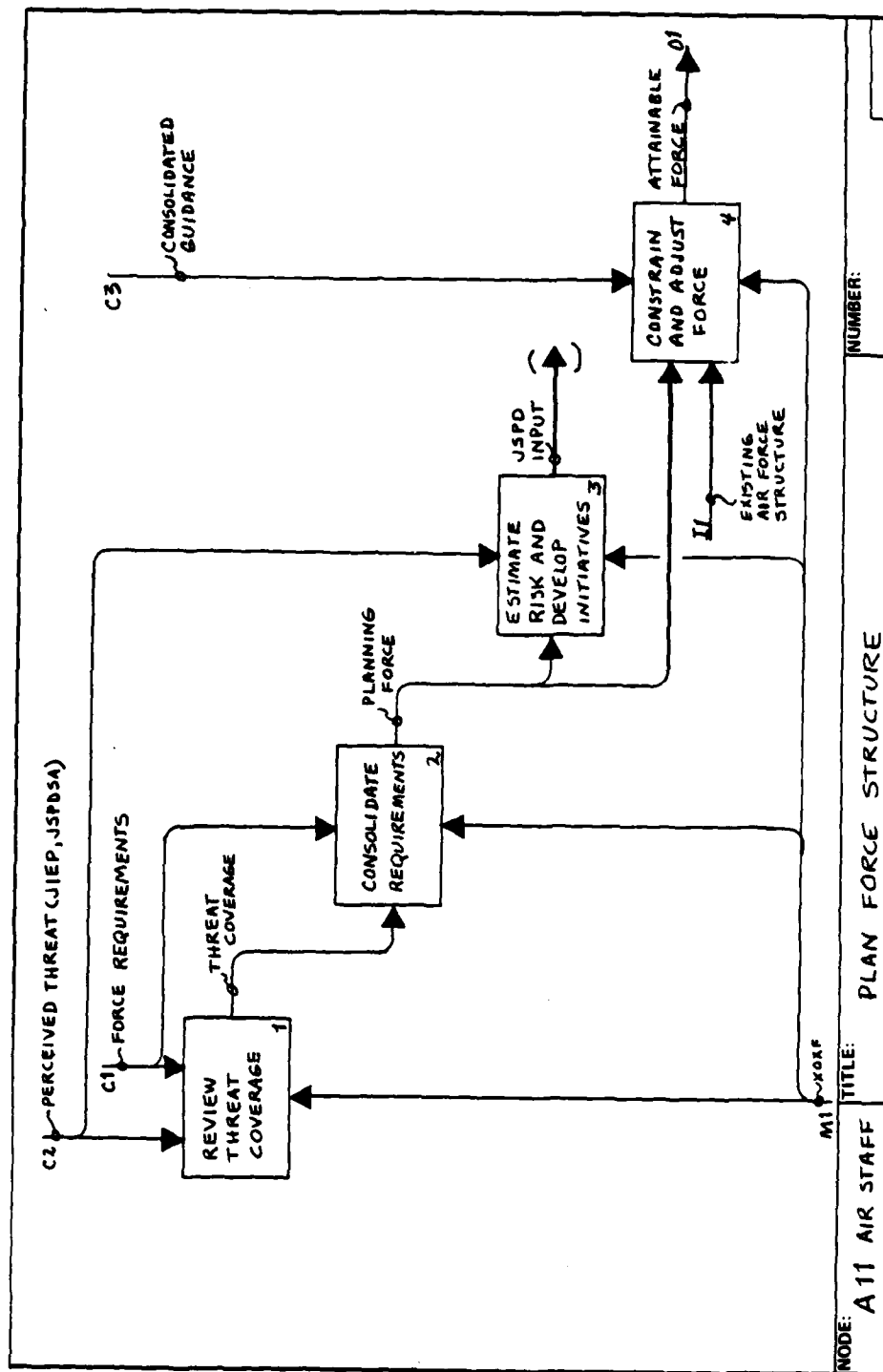
VIEWPOINT: AIR STAFF MANAGERS AND STAFF

PURPOSE: TO REVEAL REQUIREMENTS FOR READINESS INFORMATION AND TO DESCRIBE AIR STAFF ACTIVITIES AS AN INTEGRATED SYSTEM.

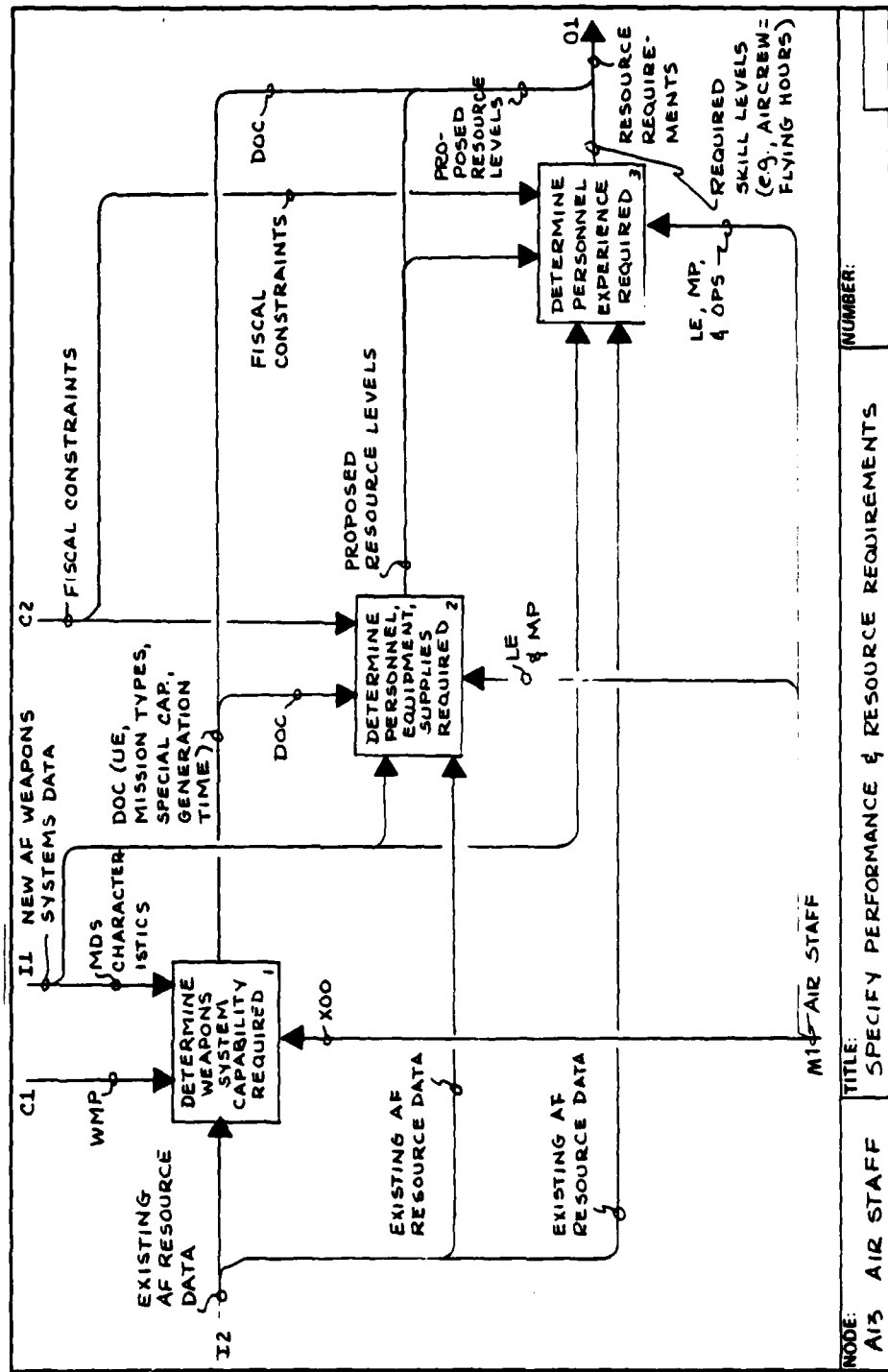
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A-6 AIR STAFF	CONTEXT: MANAGE AIR FORCE RESOURCES	







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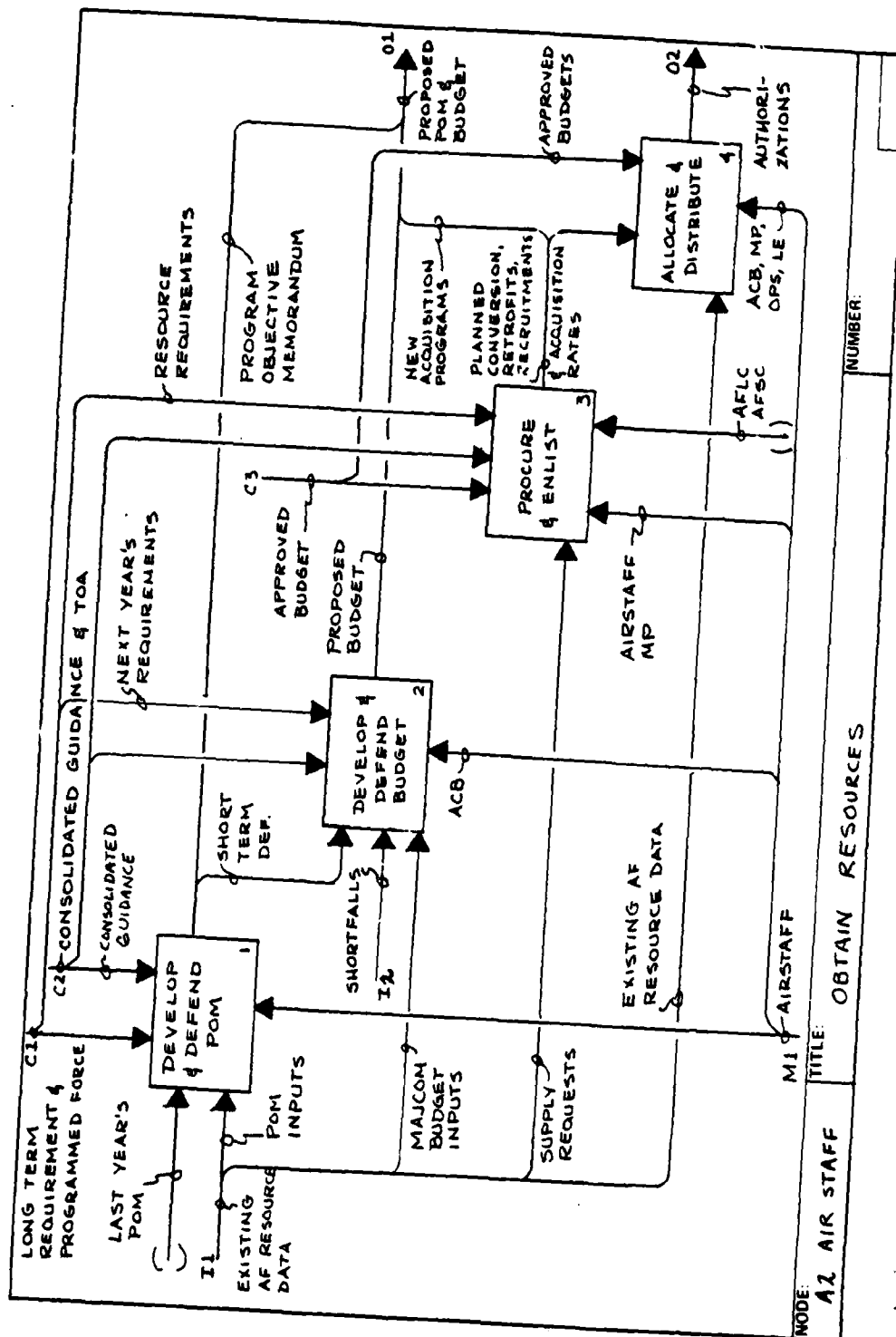


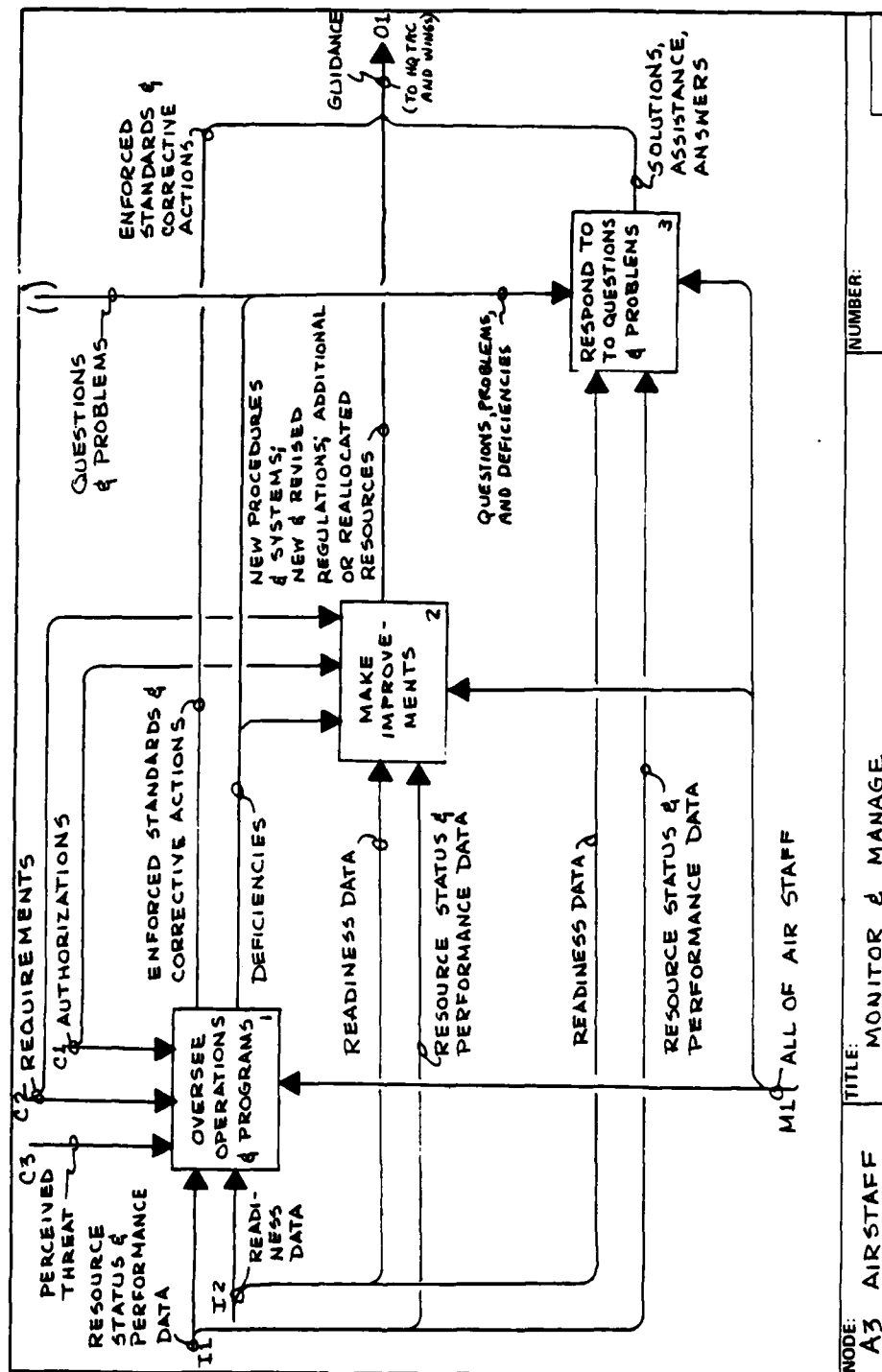
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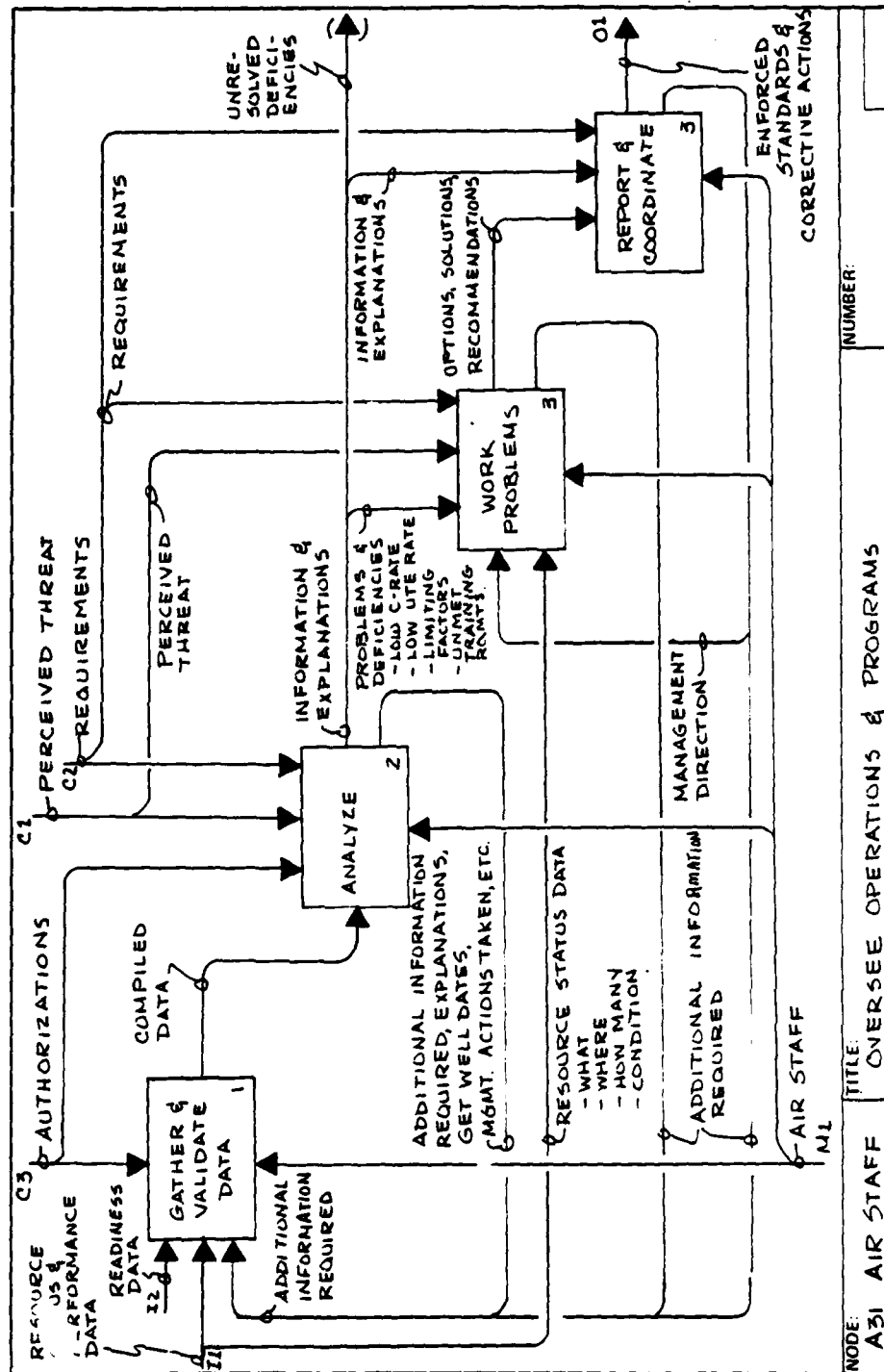
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NO.:

AIR STAFF



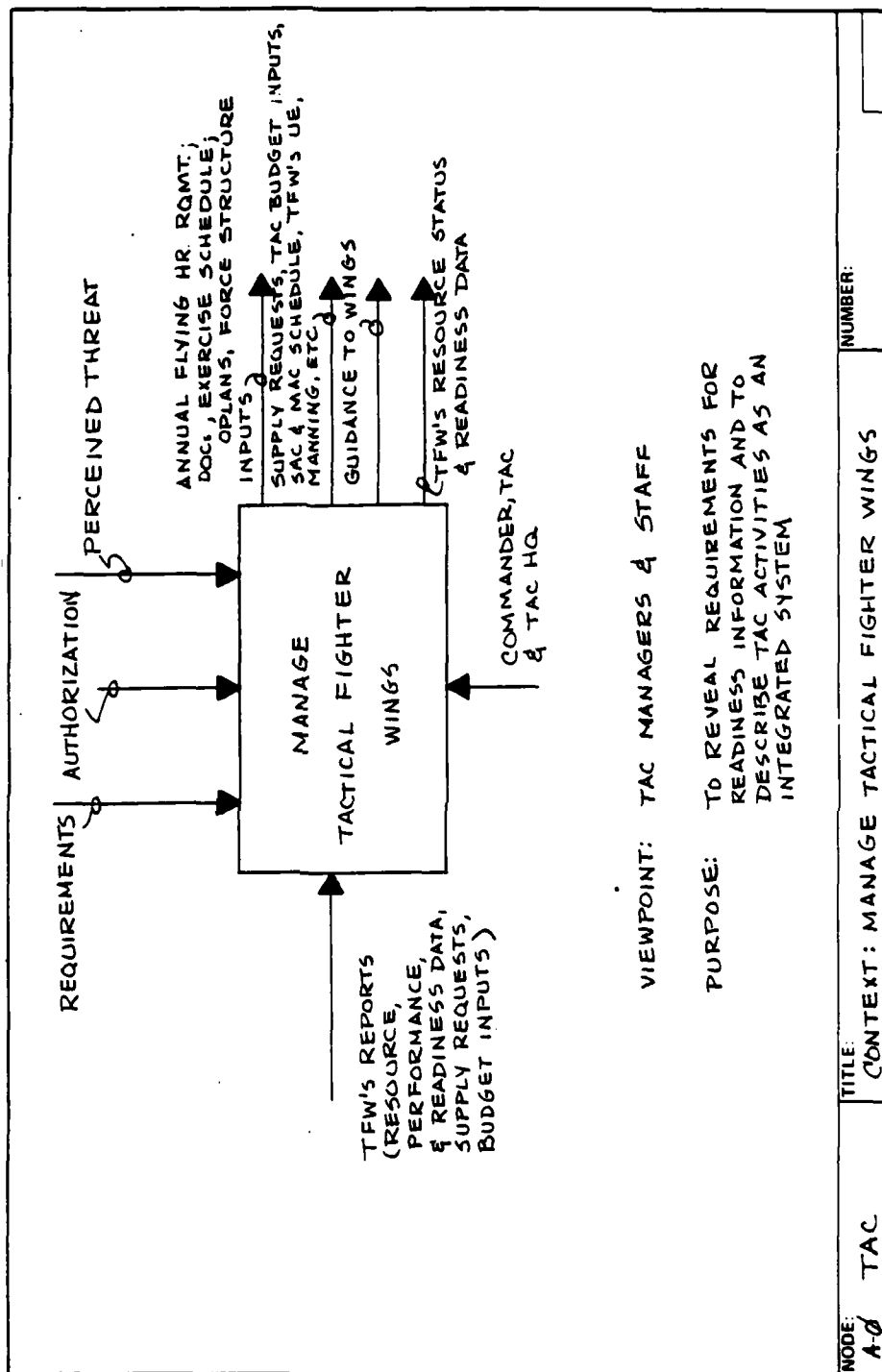






MODEL 3 - TACTICAL AIR COMMAND
MANAGE TACTICAL FIGHTER WINGS

D-25



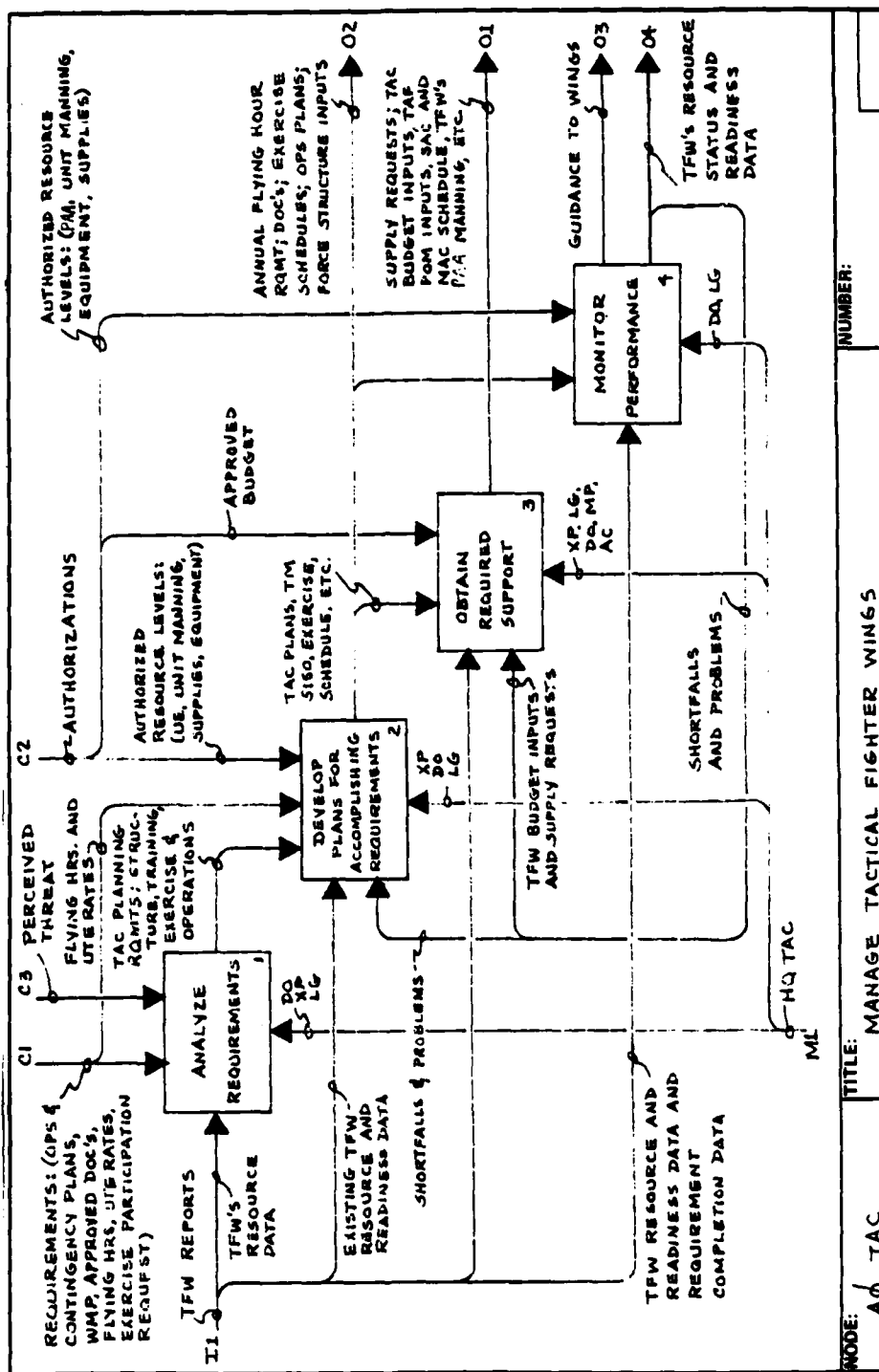
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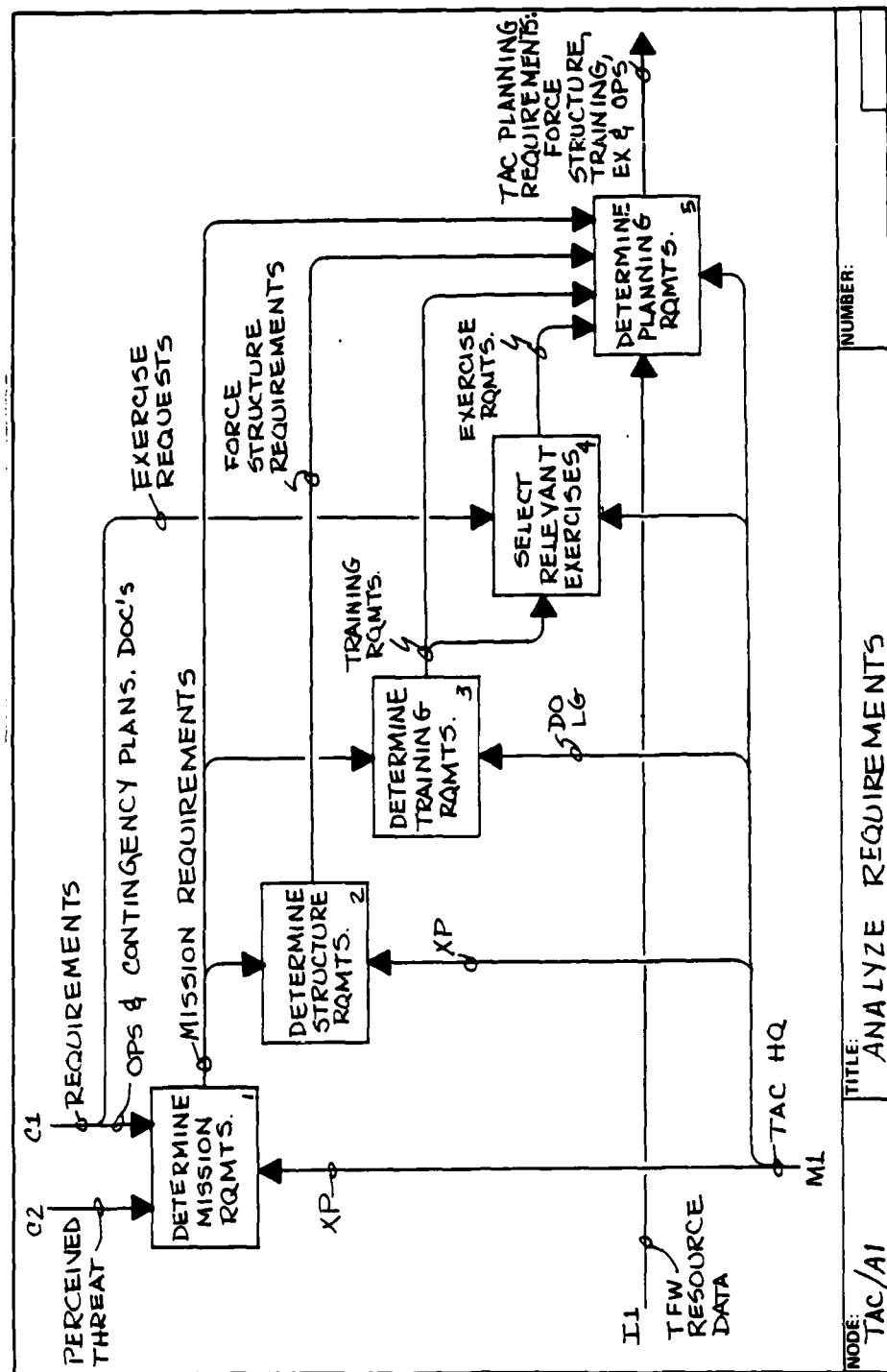
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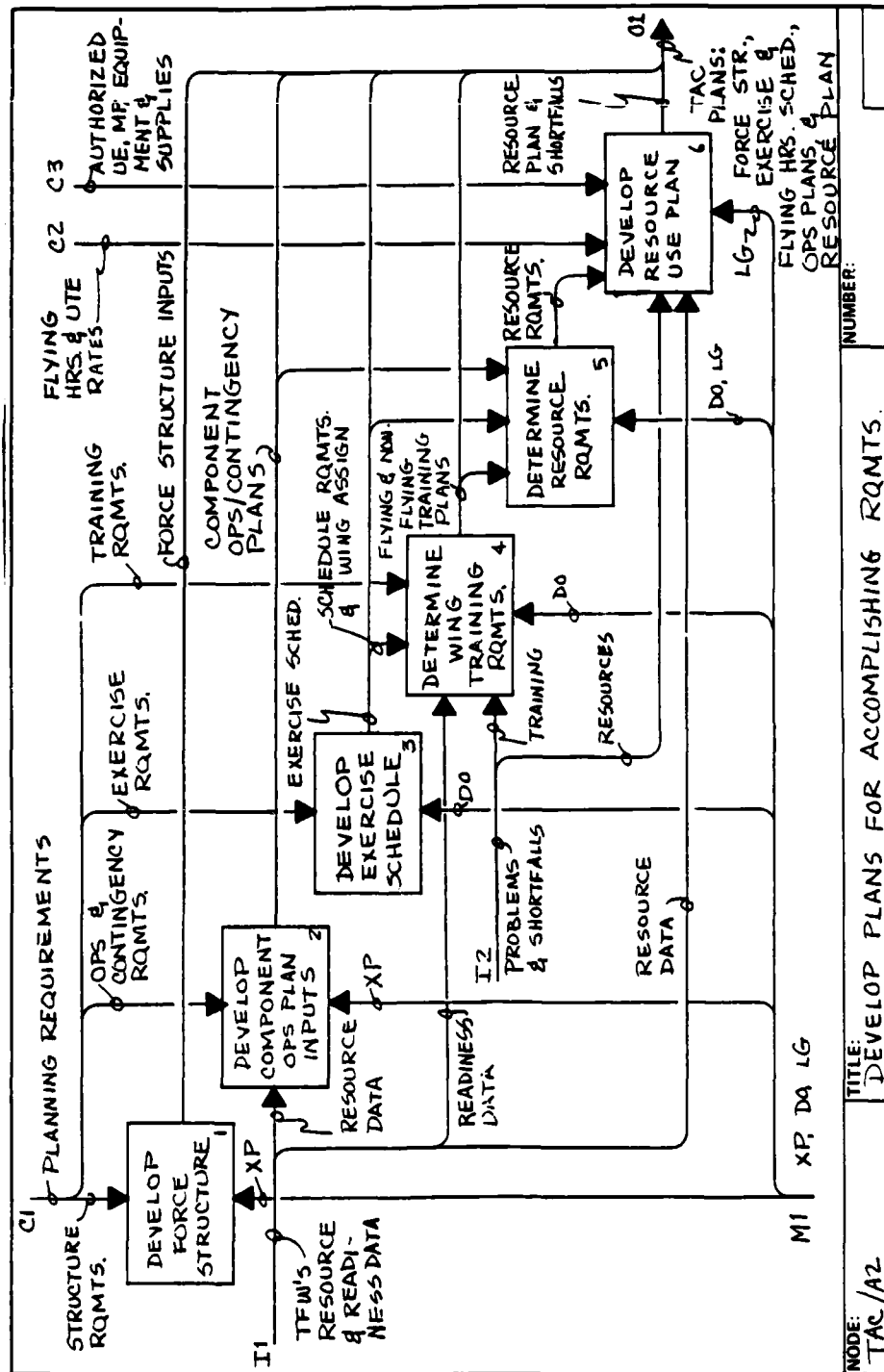
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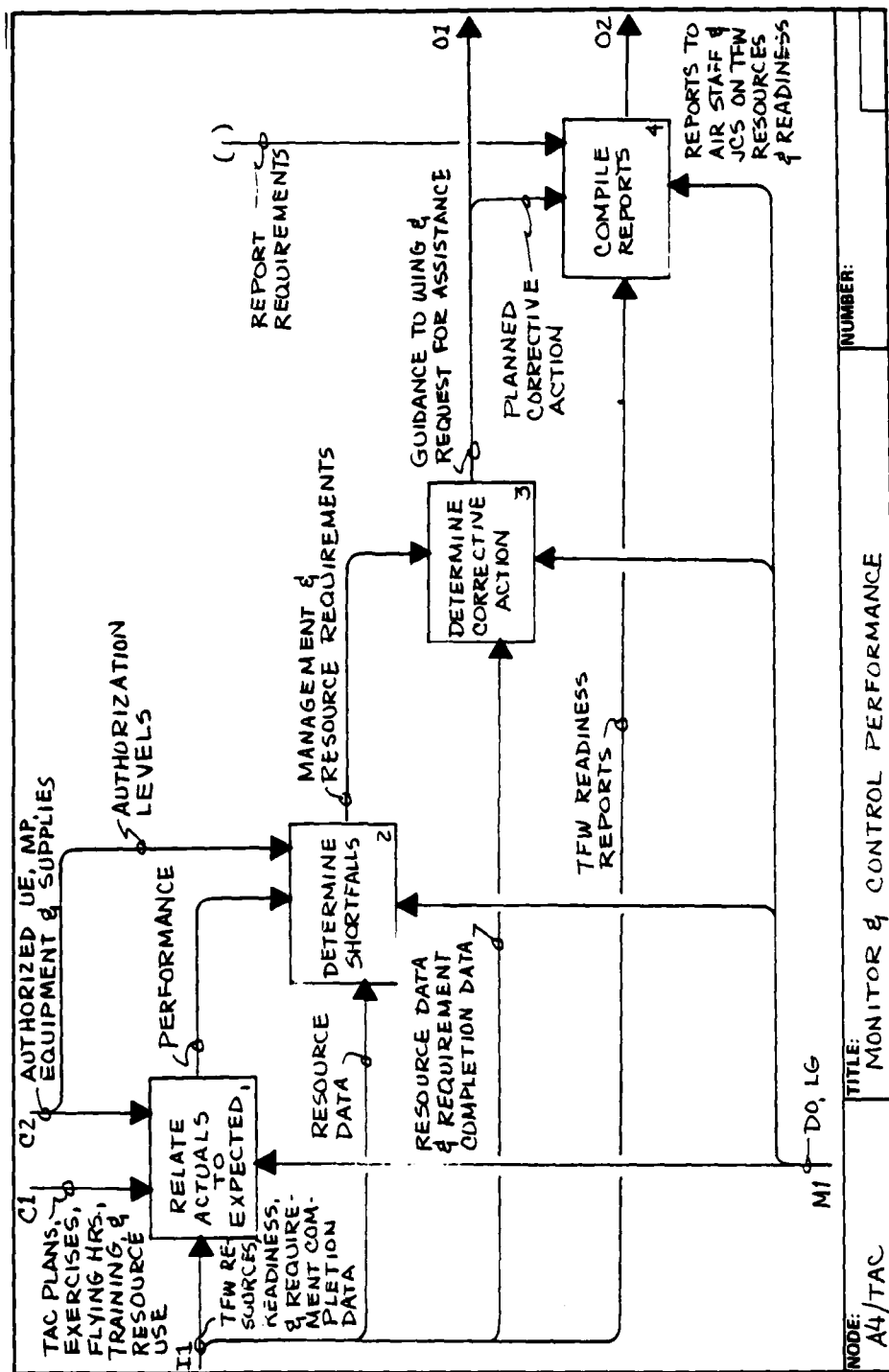
A-0



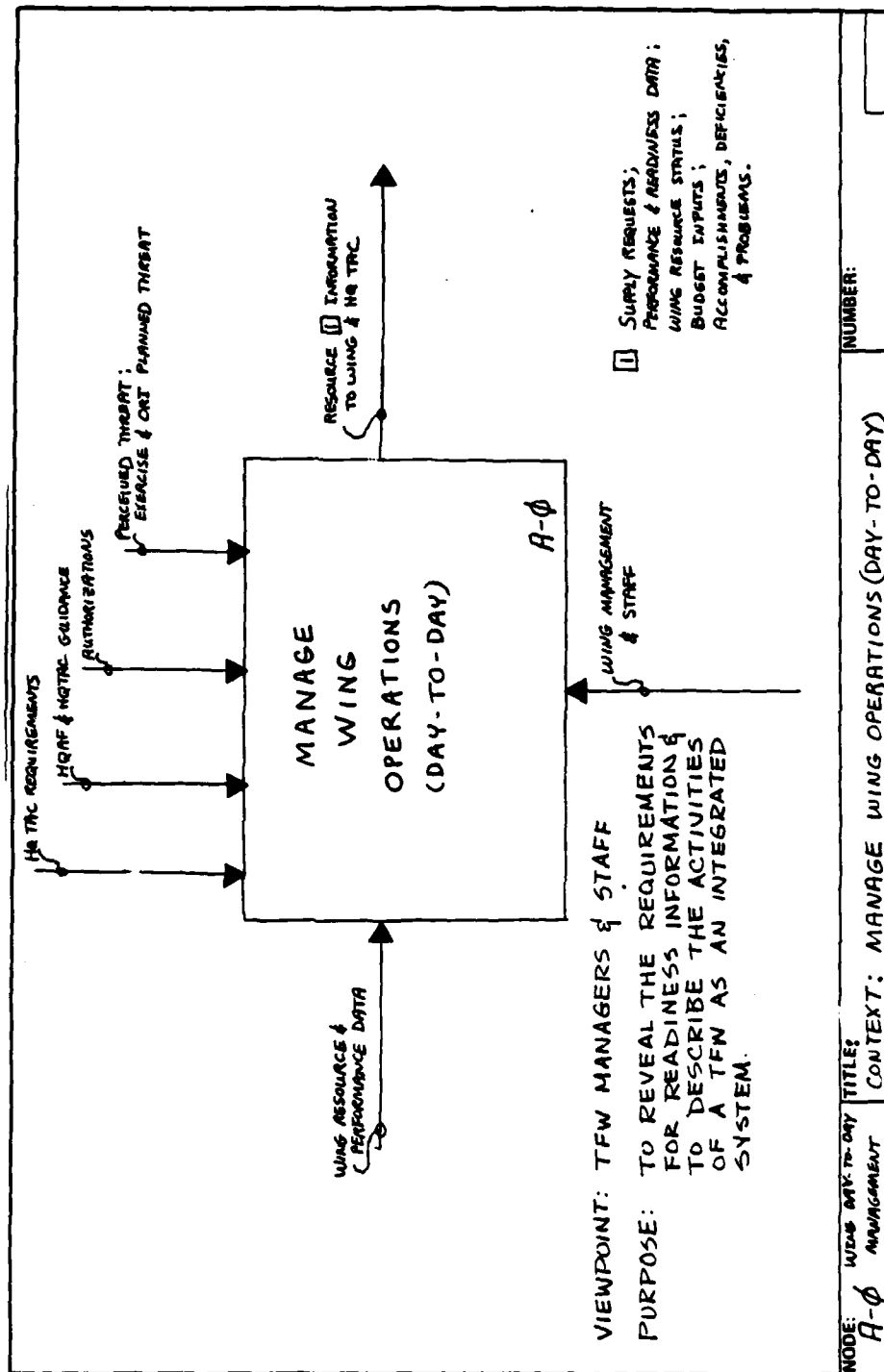


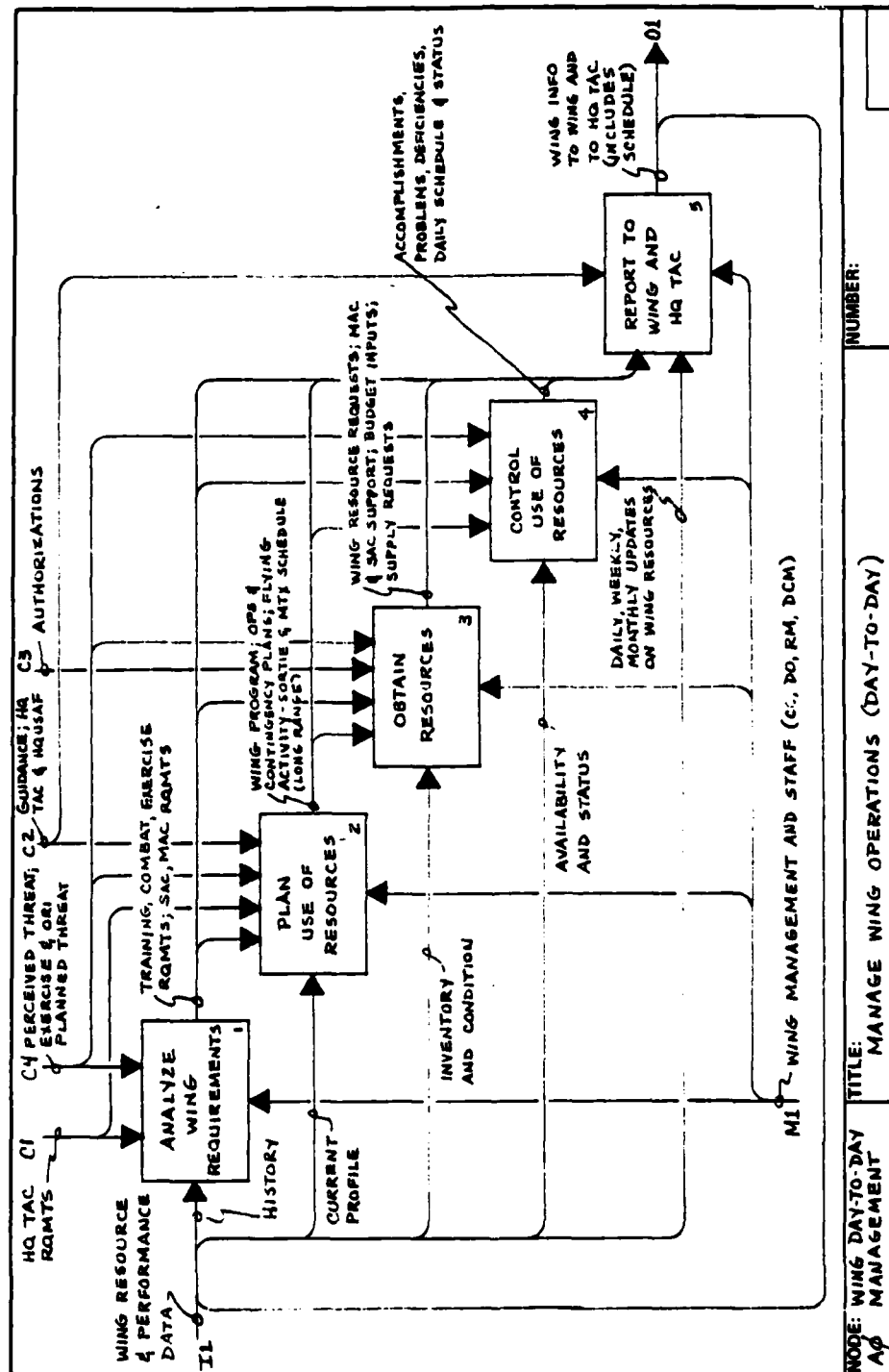




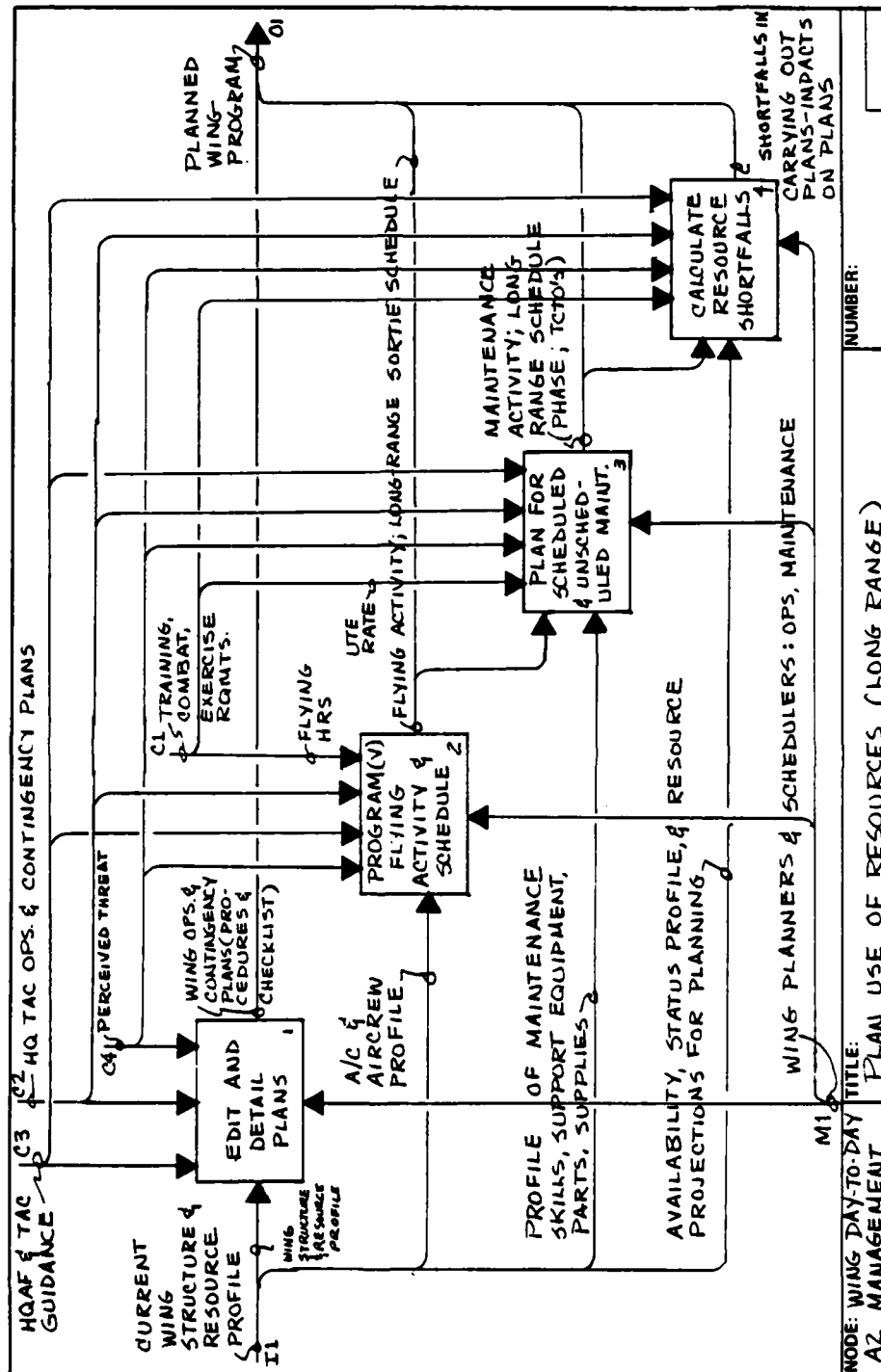


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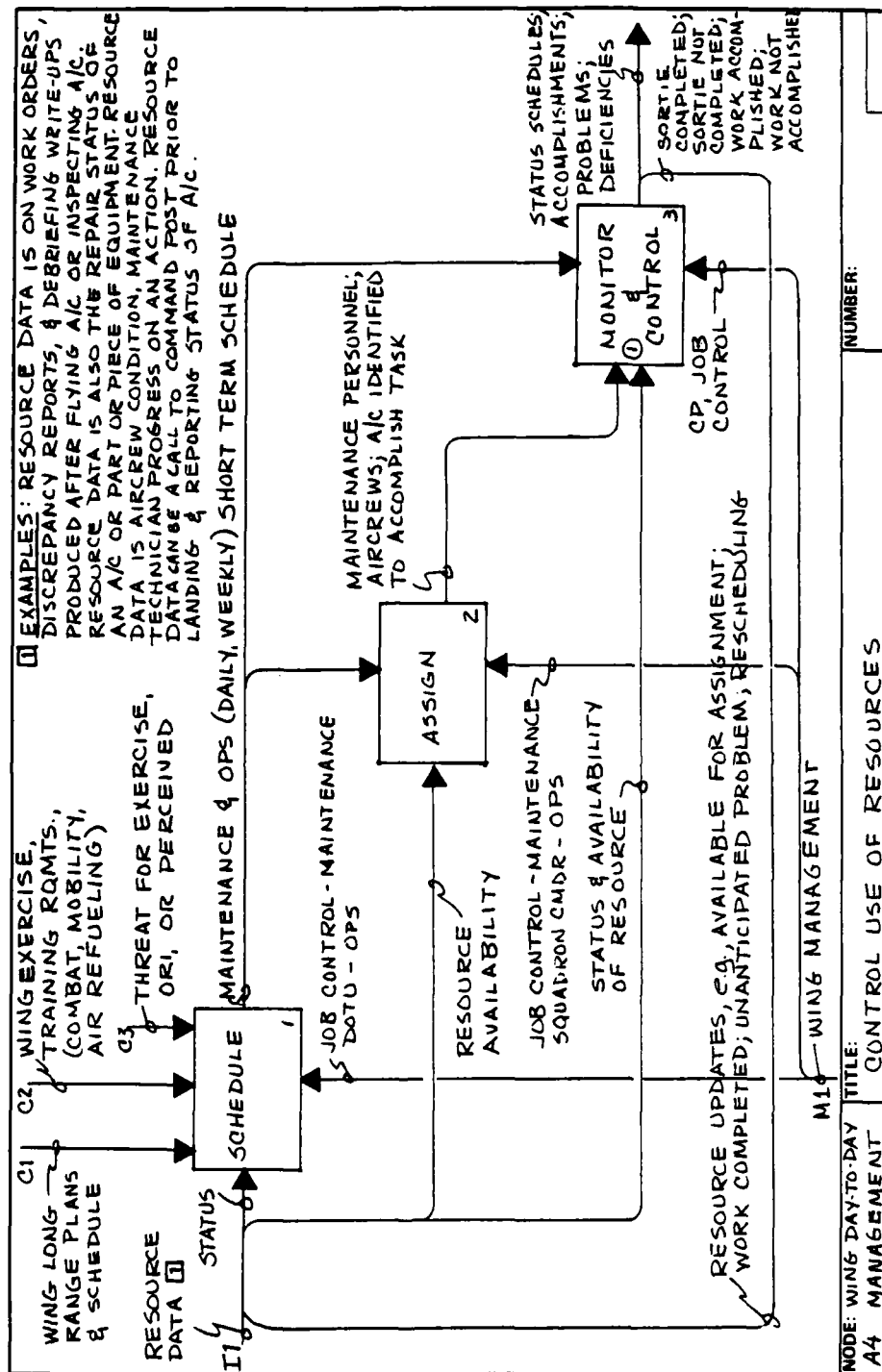






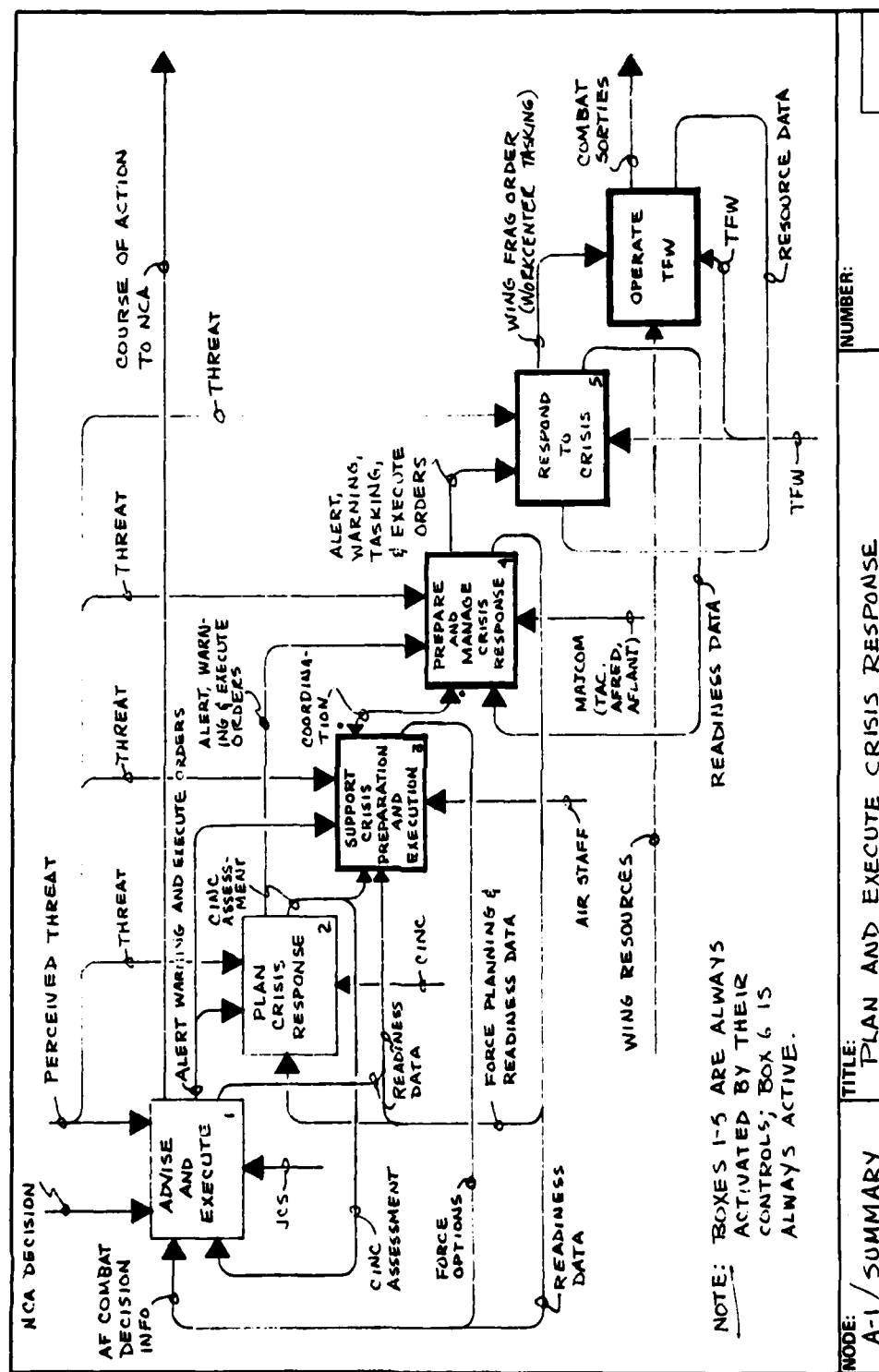




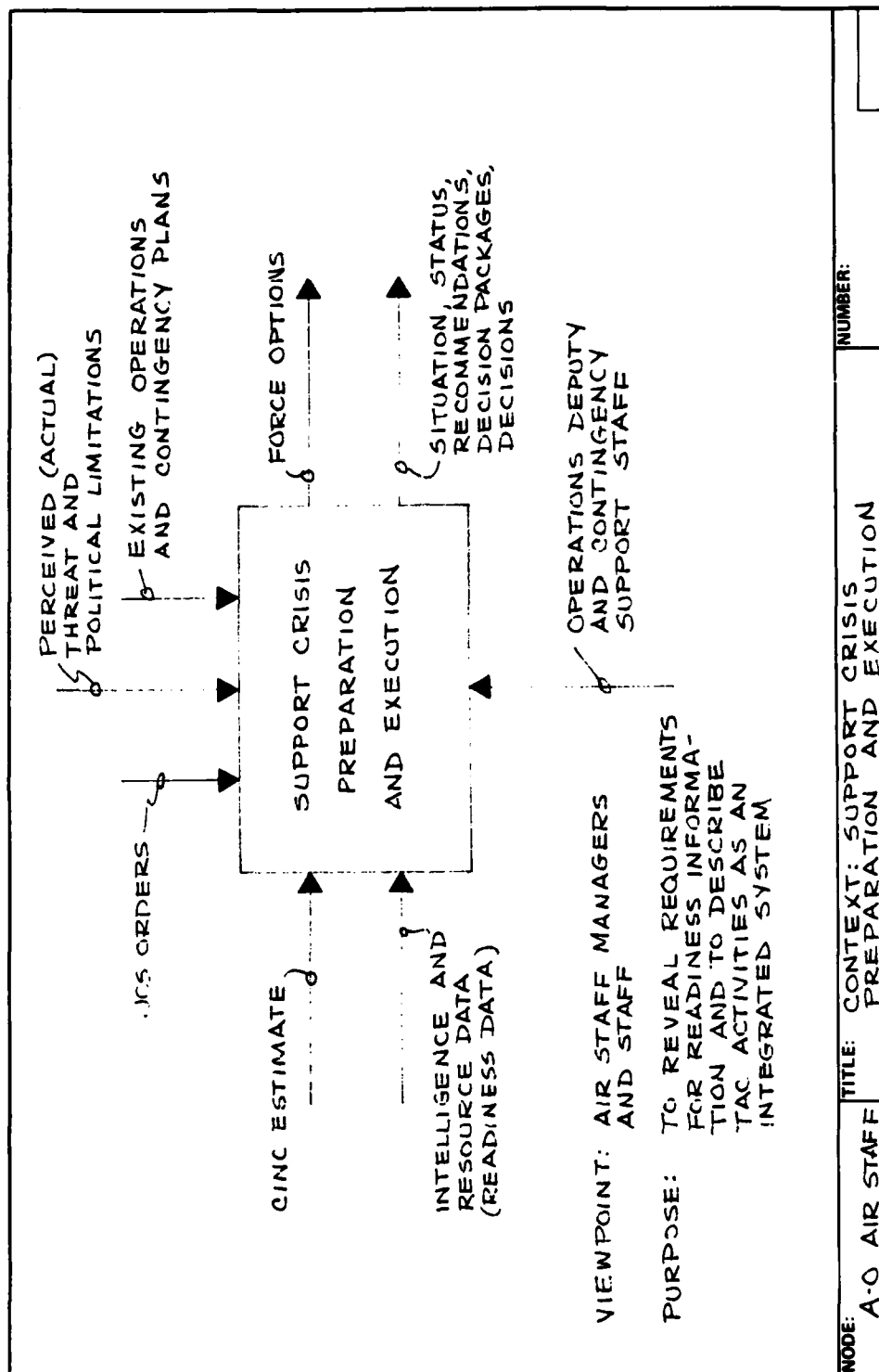


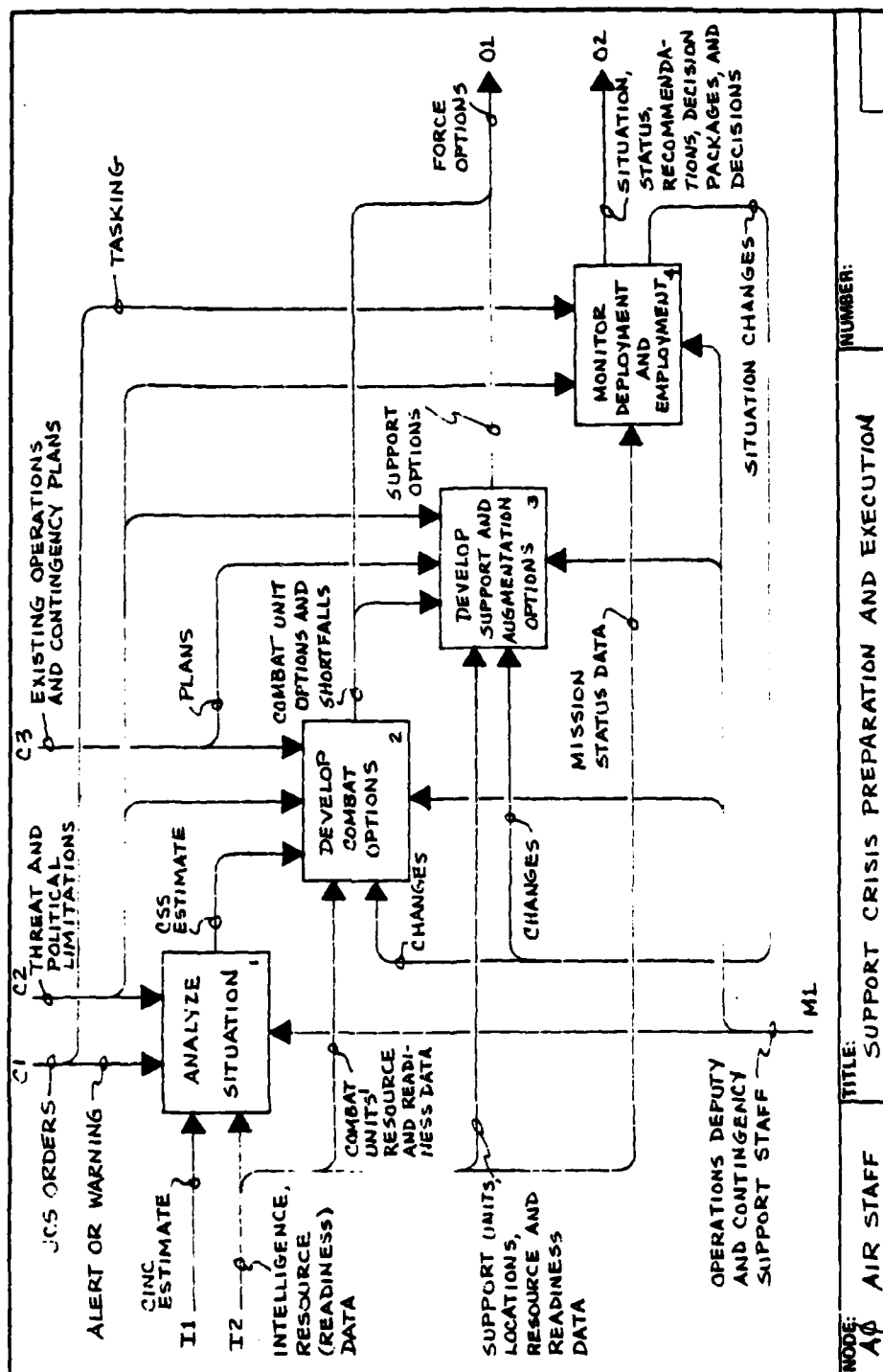


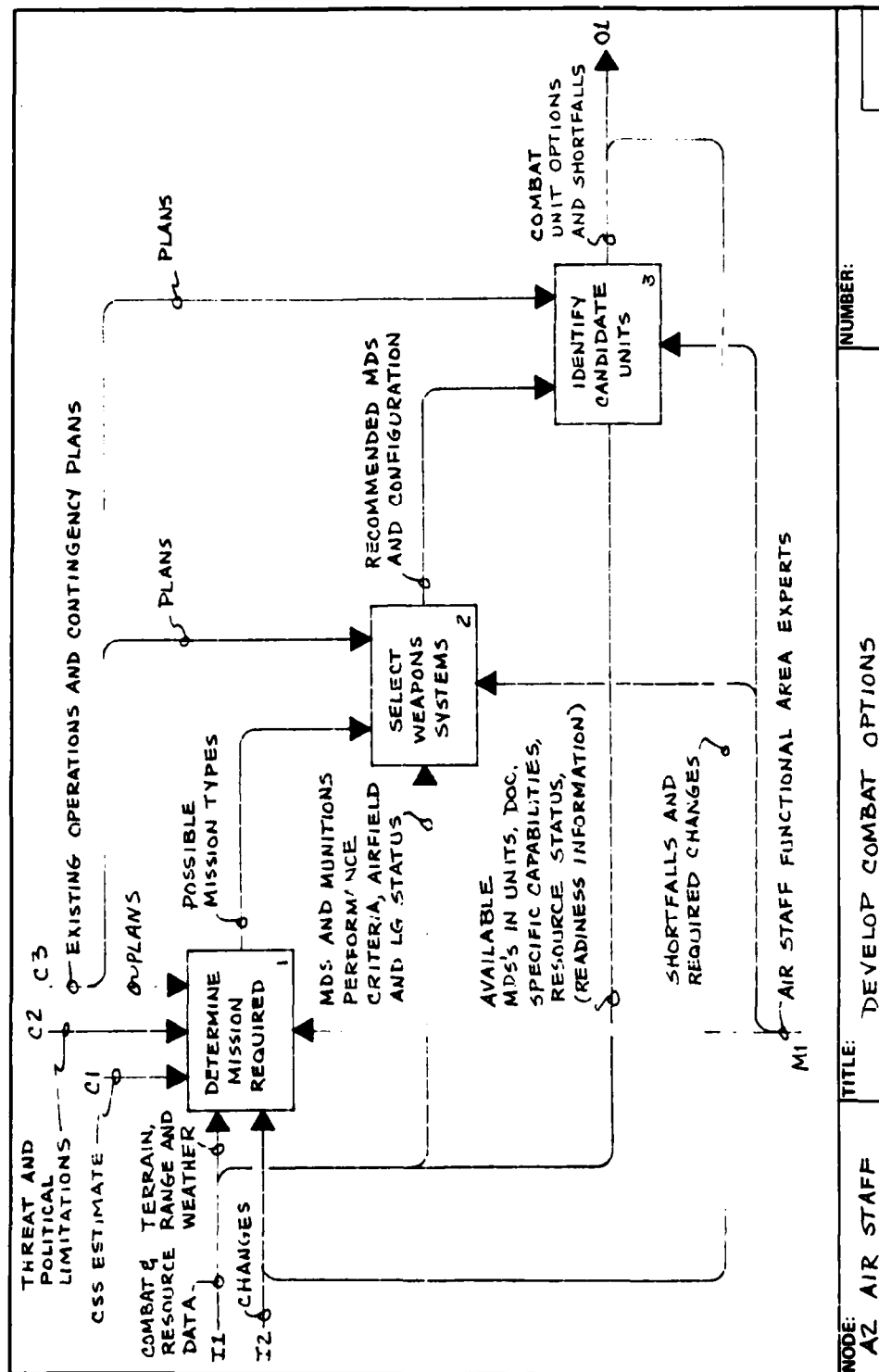
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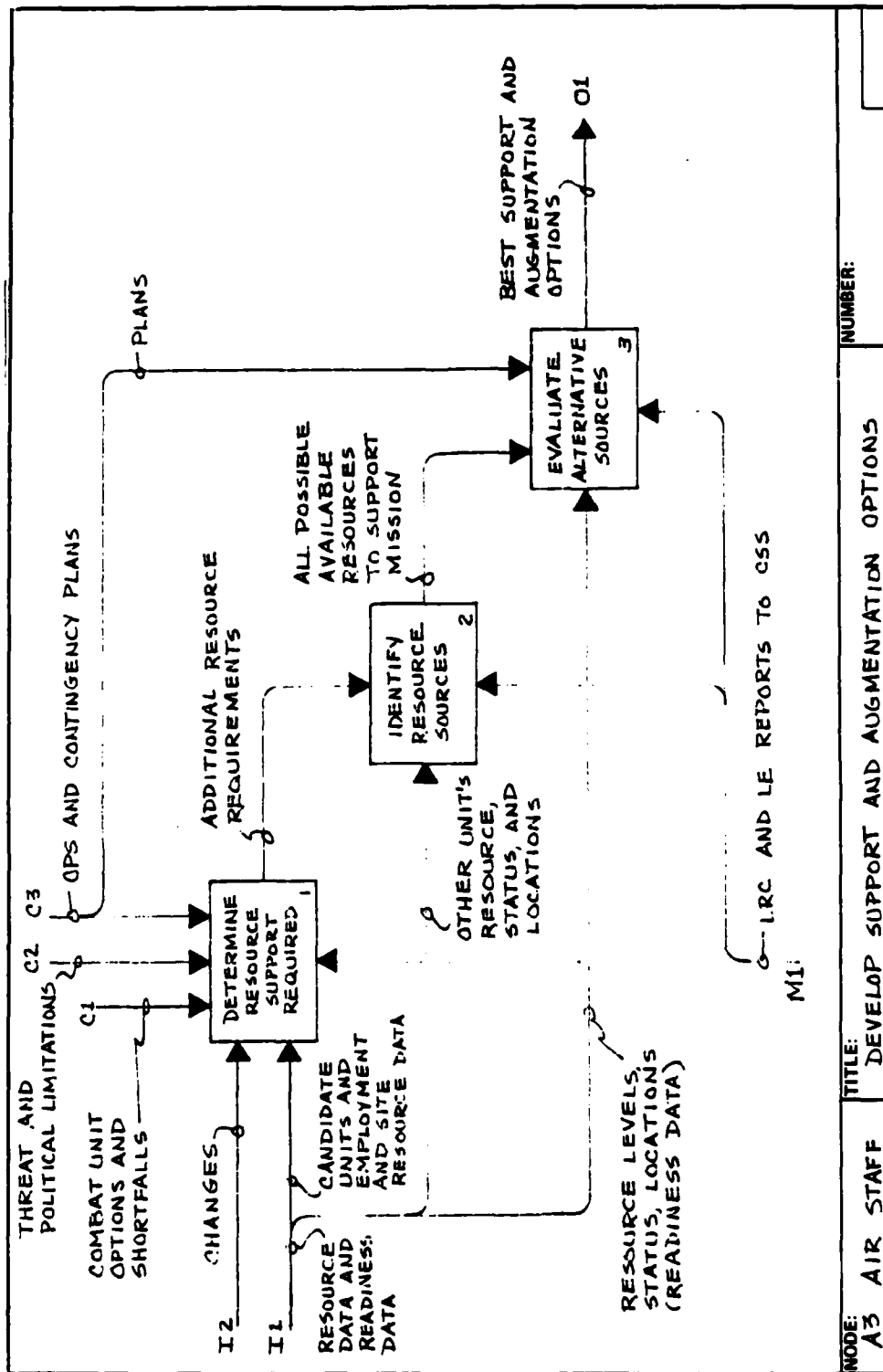


MODEL 2 - AIR STAFF
SUPPORT CRISIS PREPARATION AND EXECUTION





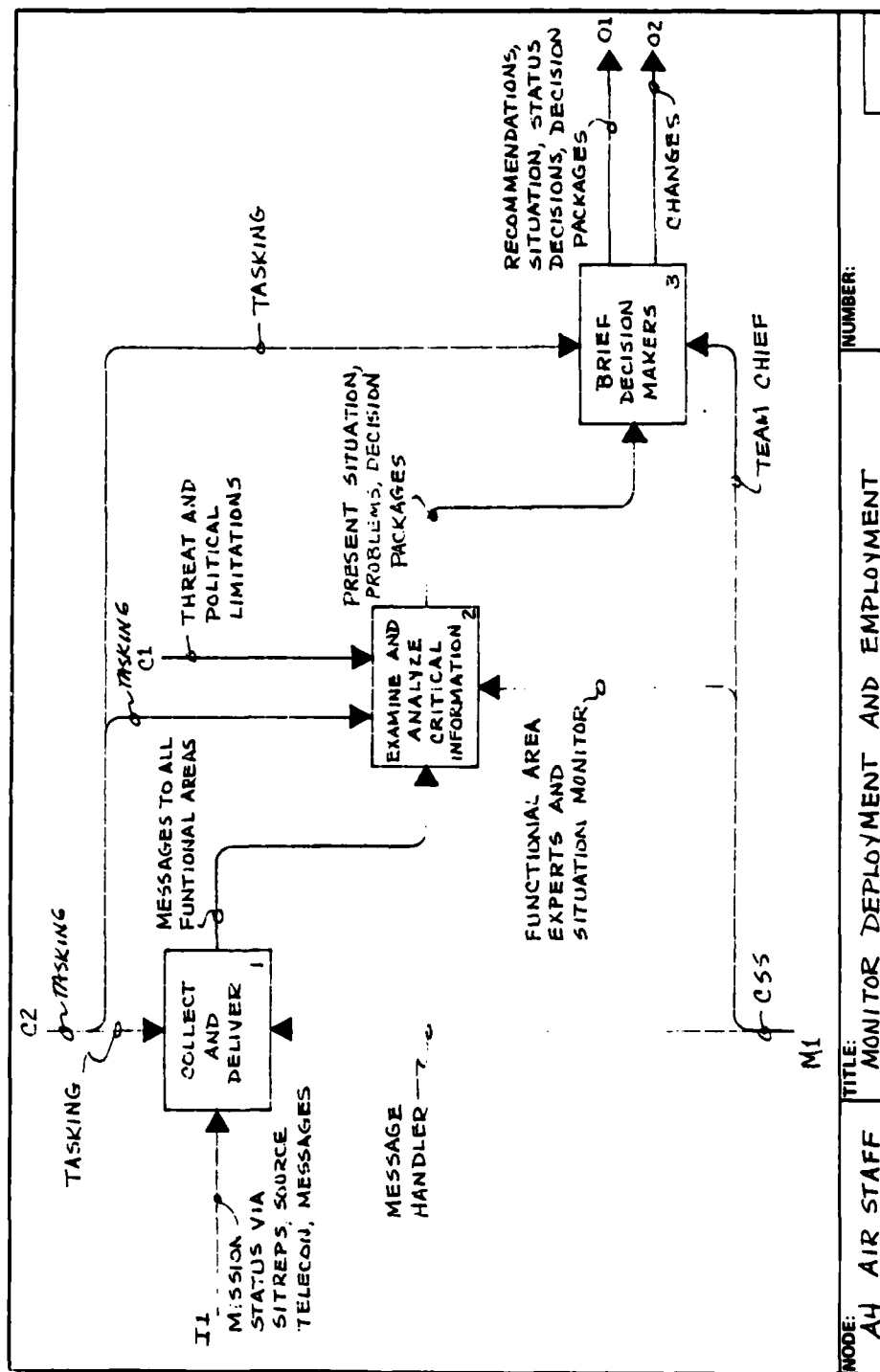


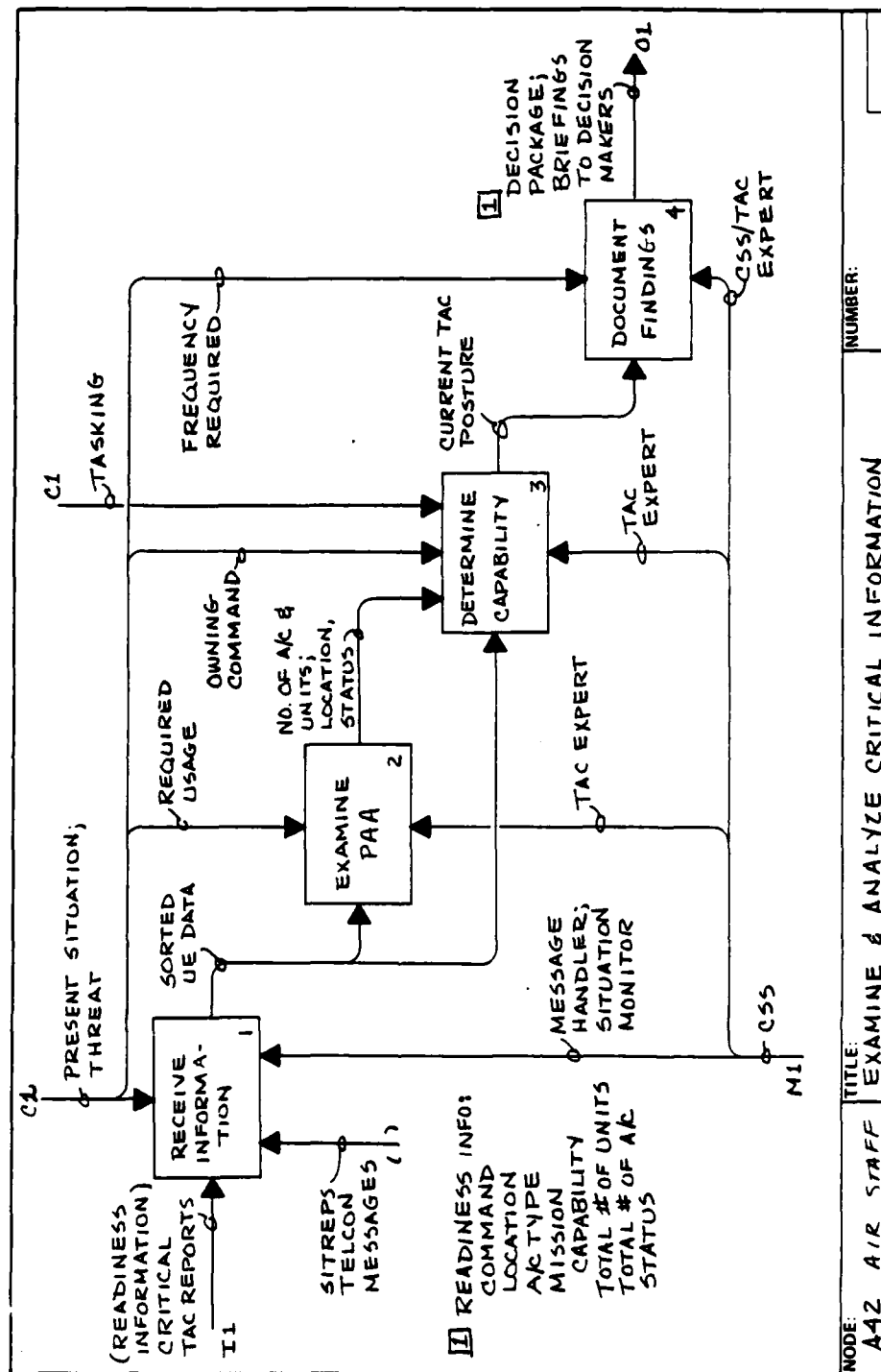


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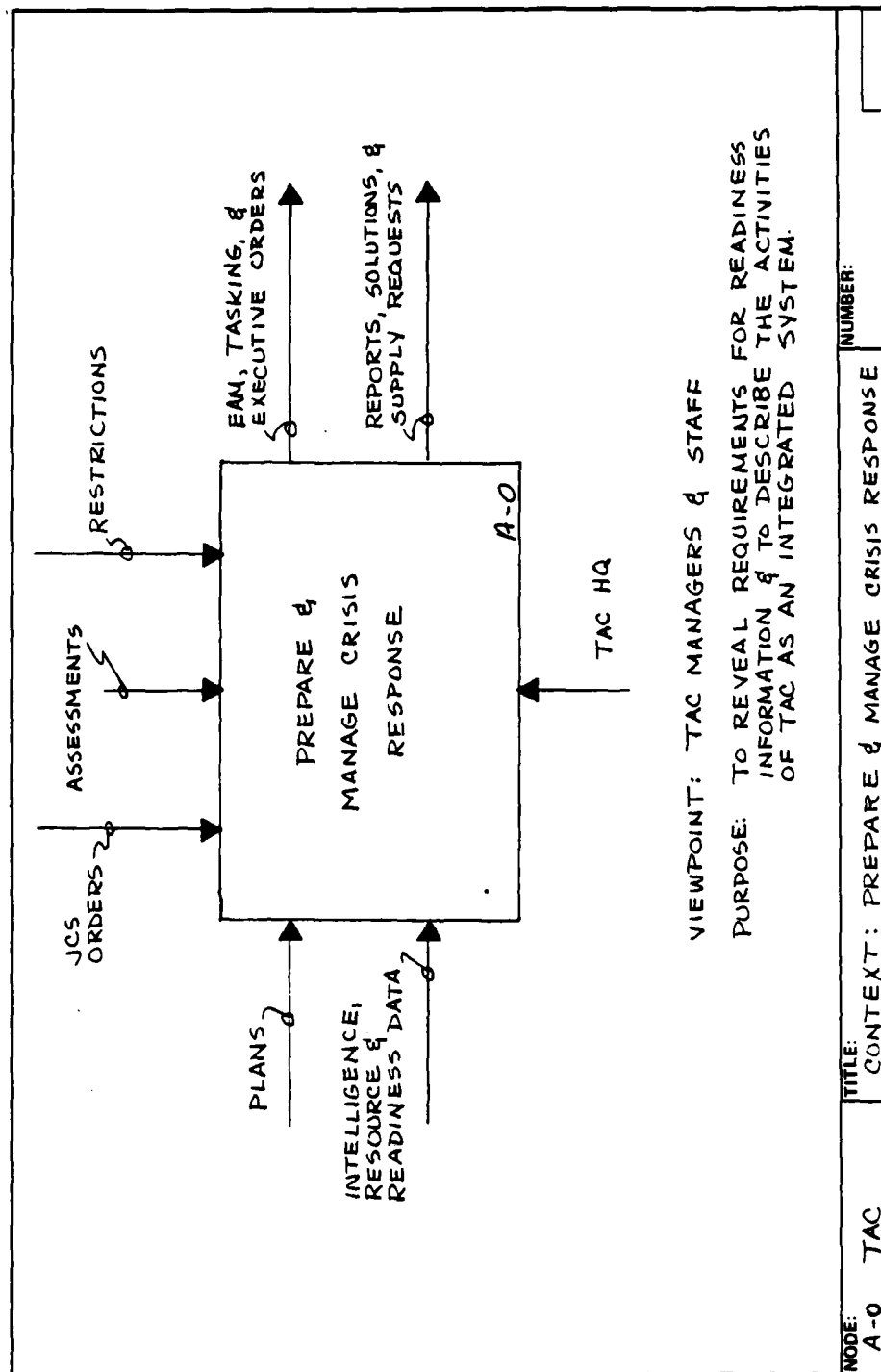
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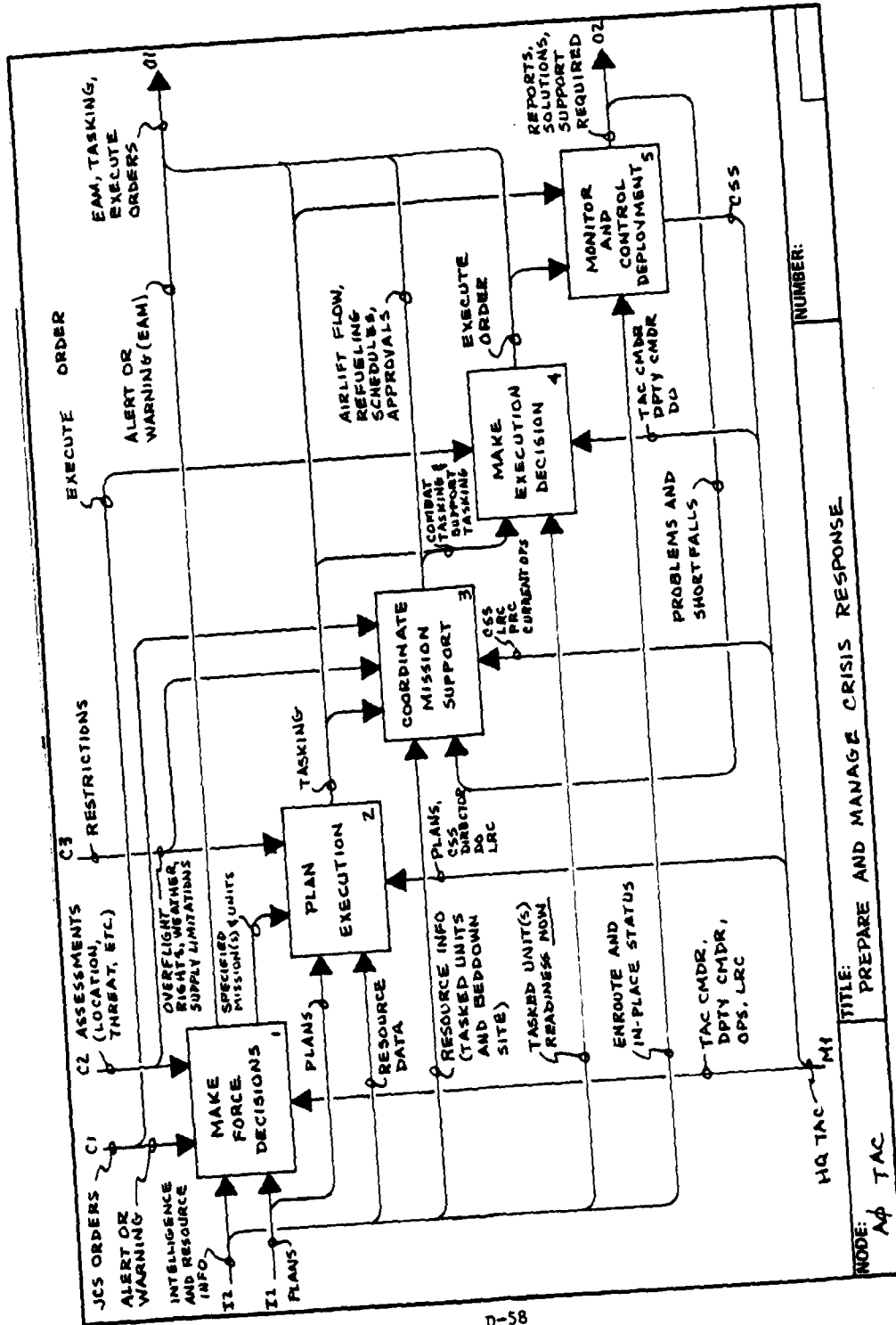


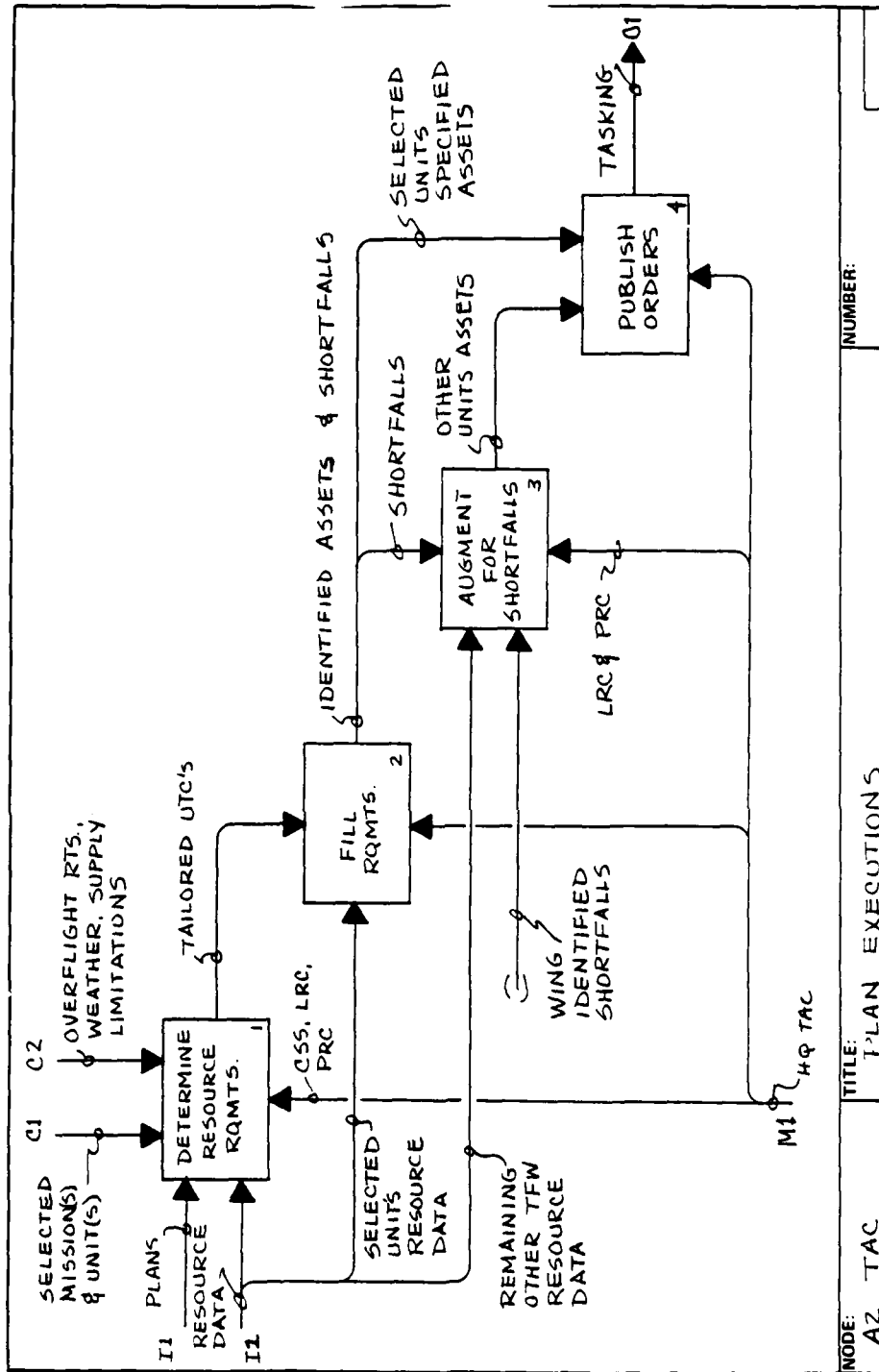


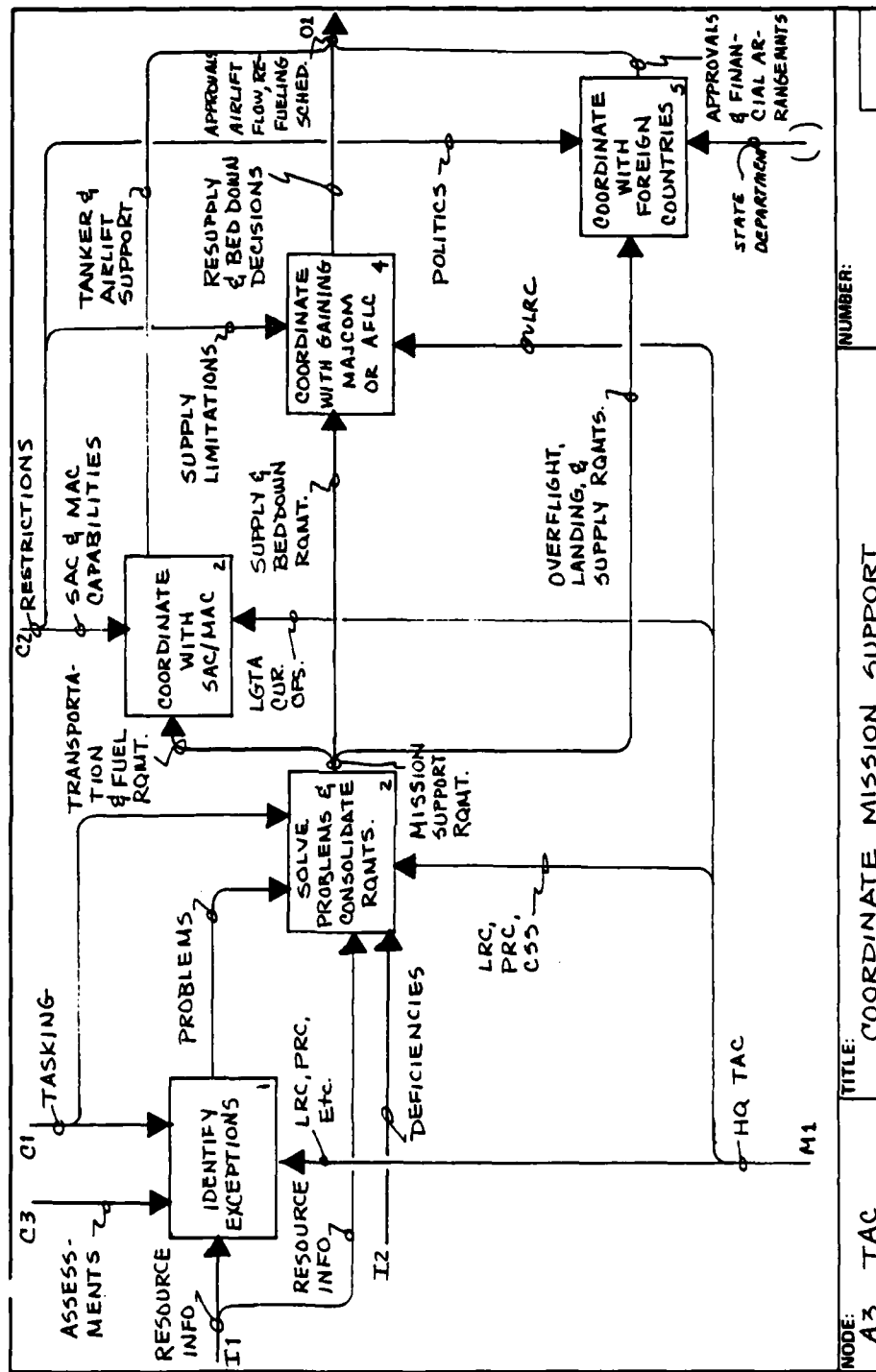
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PREPARE AND MANAGE CRISIS RESPONSE

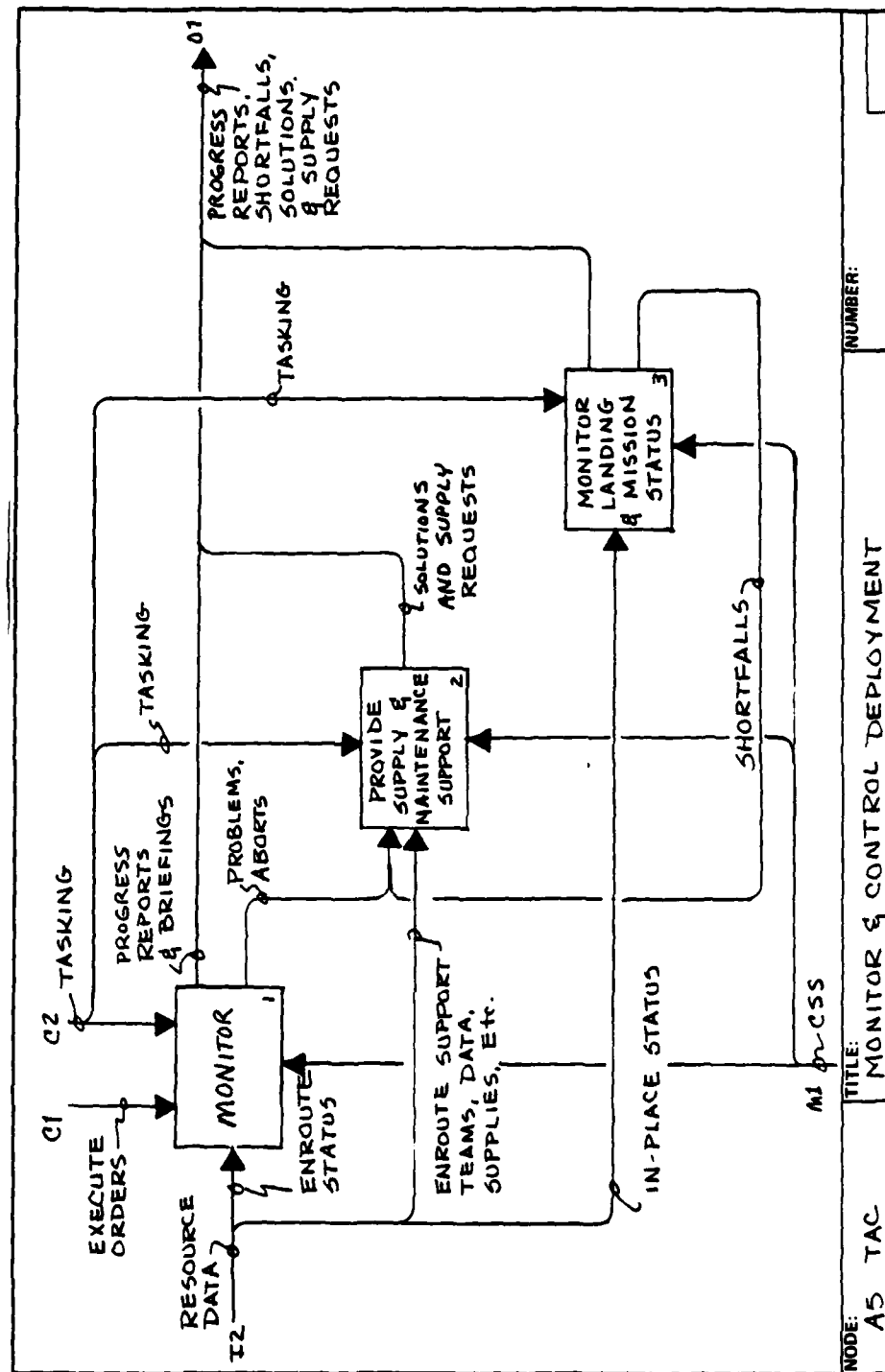
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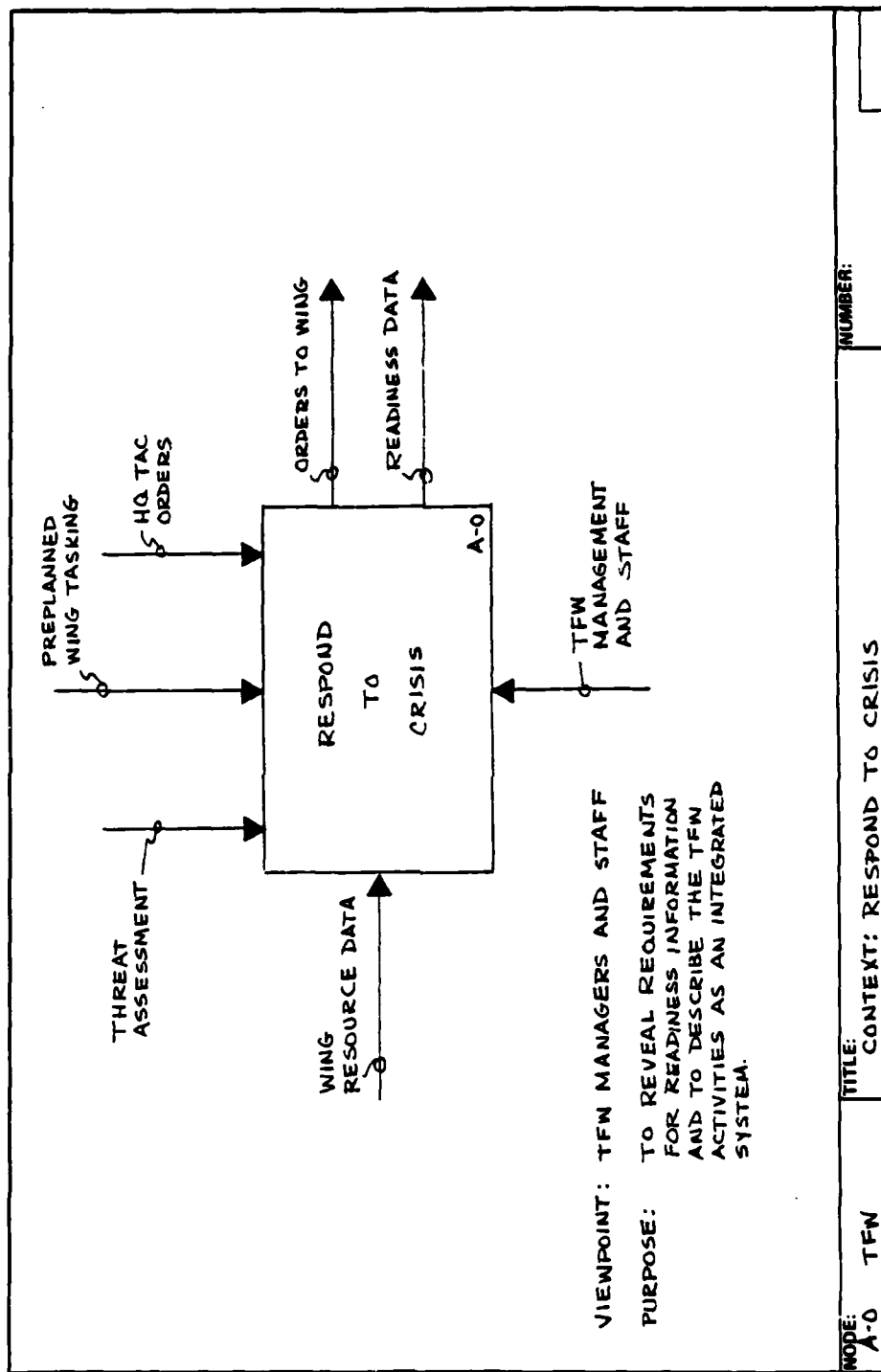


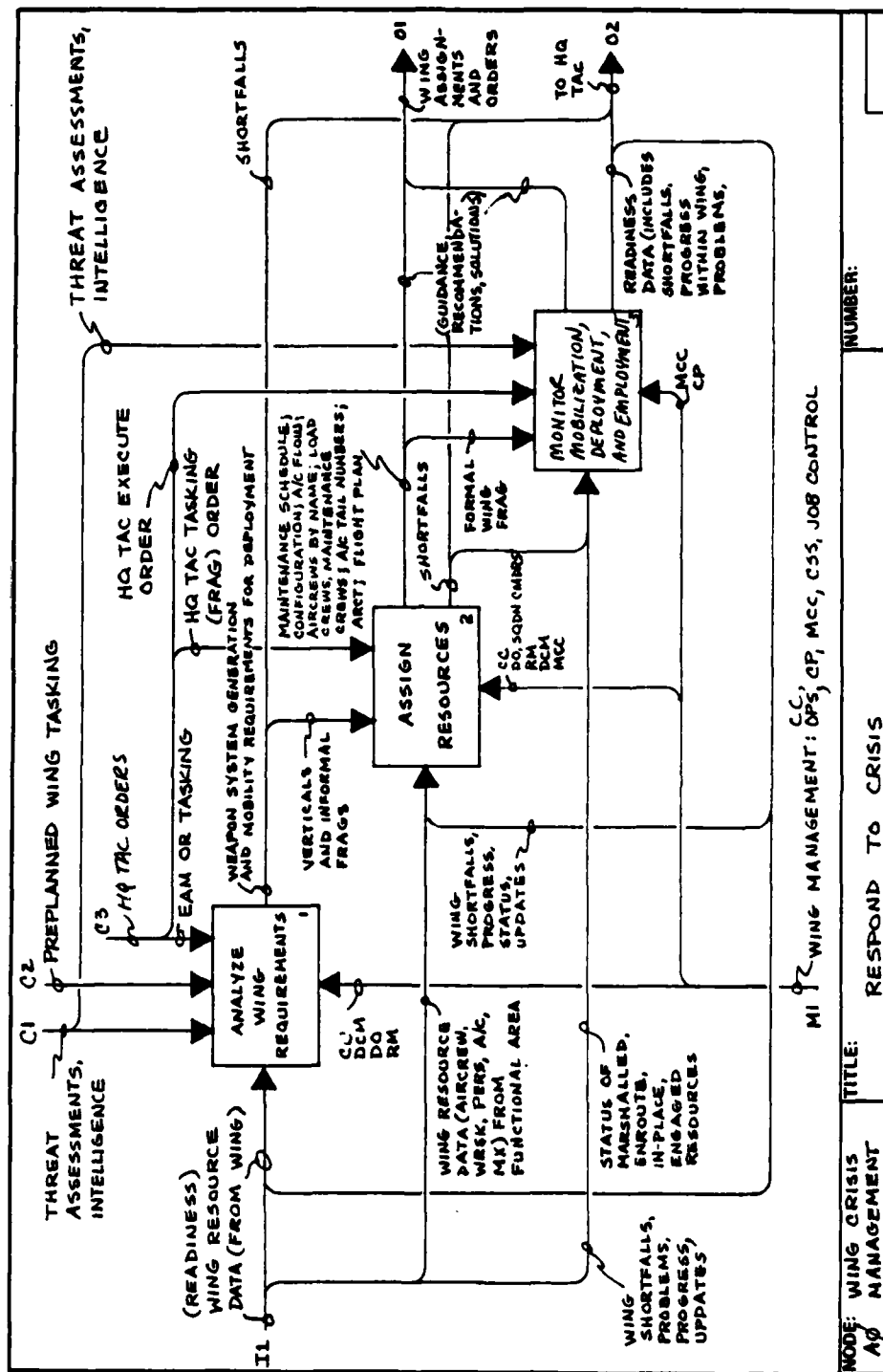


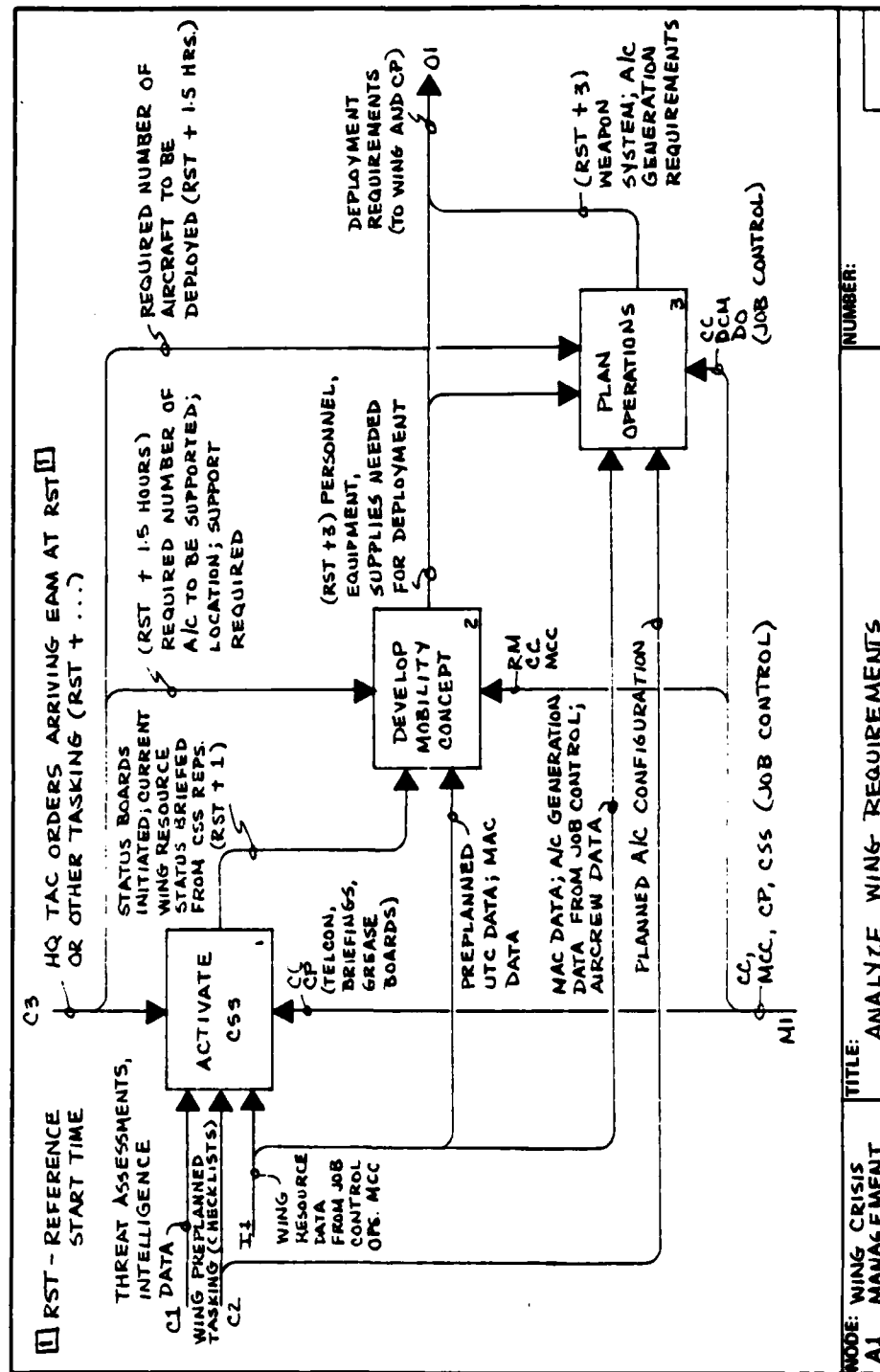
MODEL 6 - TACTICAL FIGHTER WING

RESPOND TO CRISIS

D-63

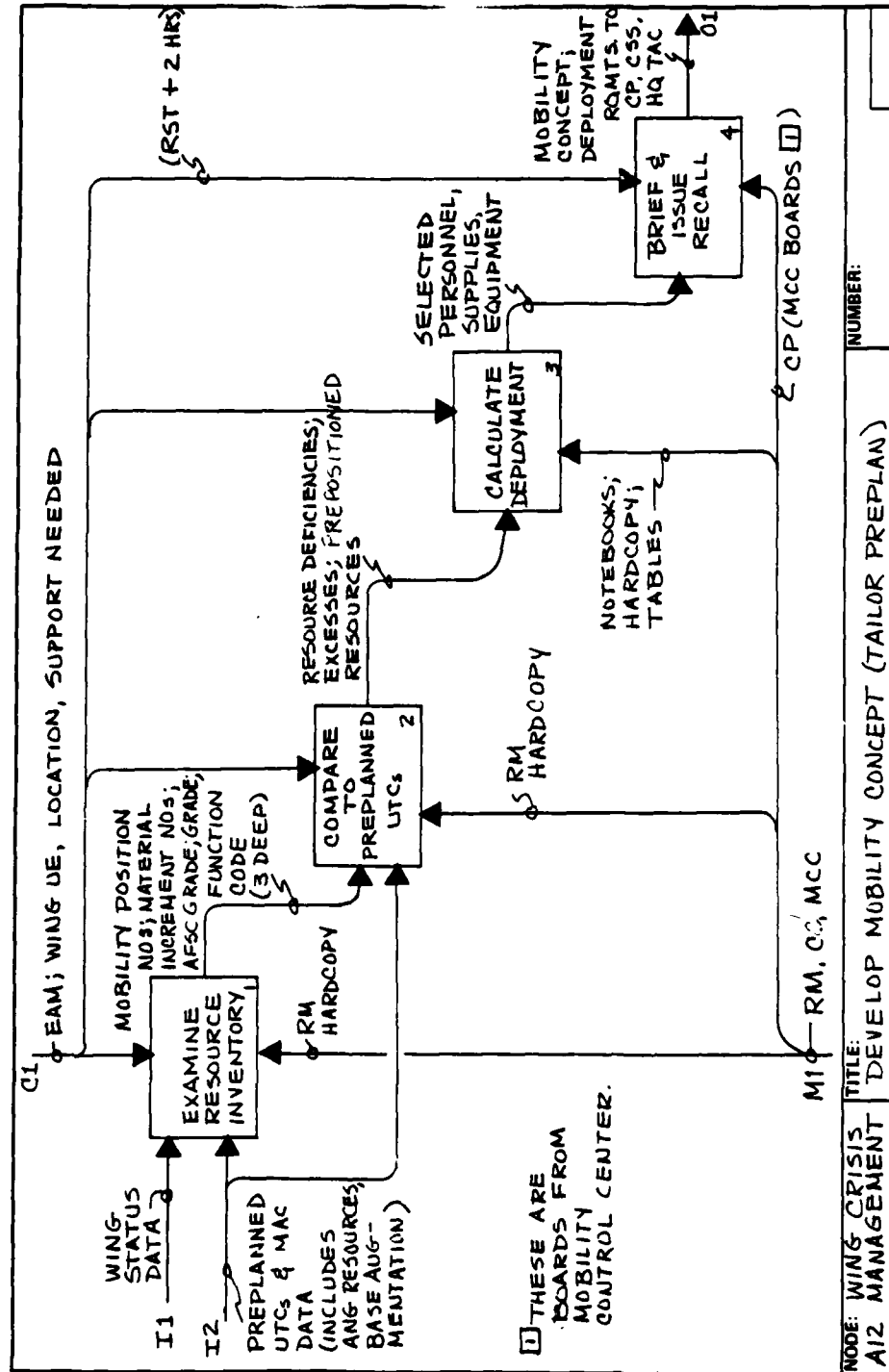


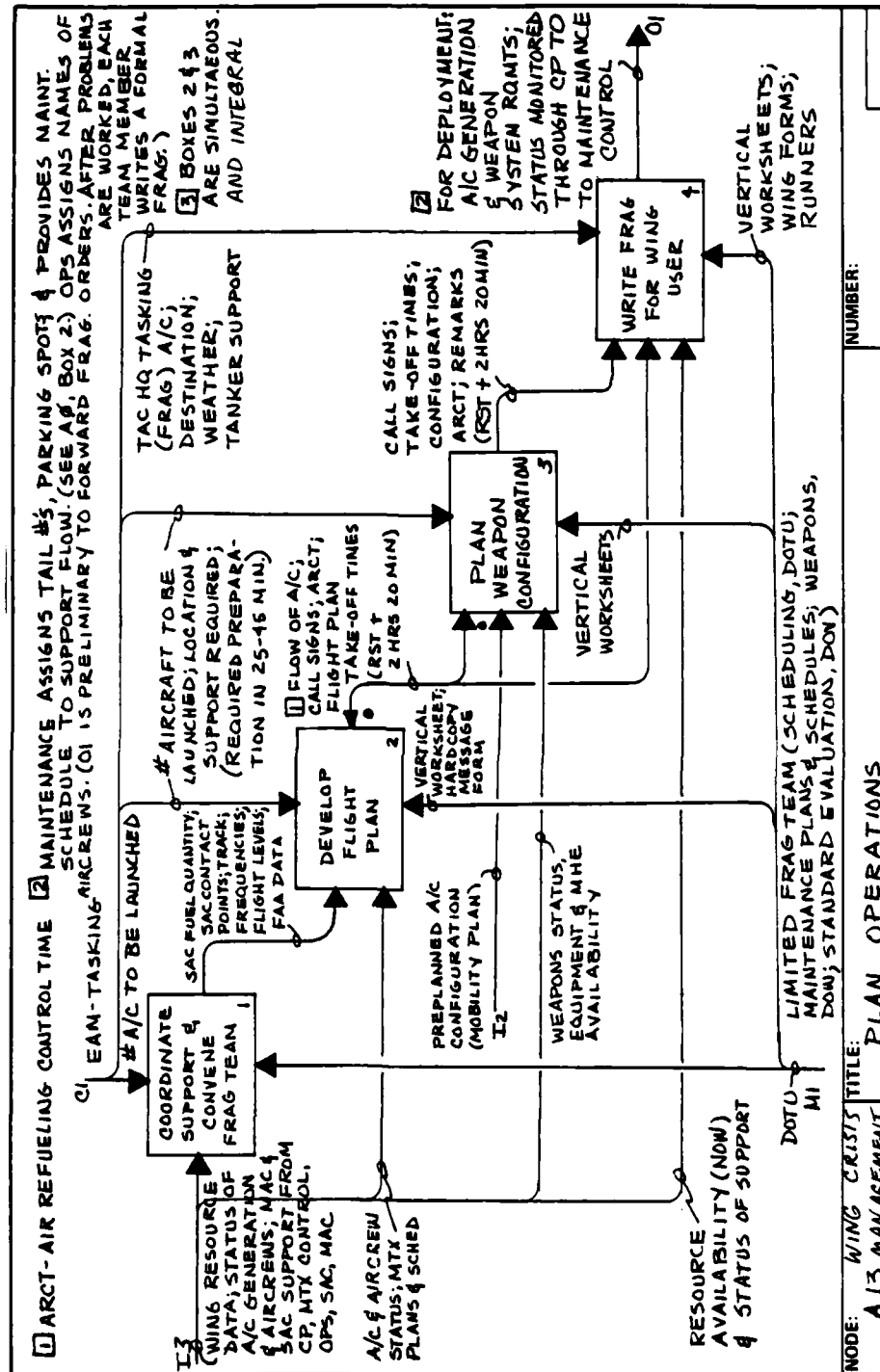




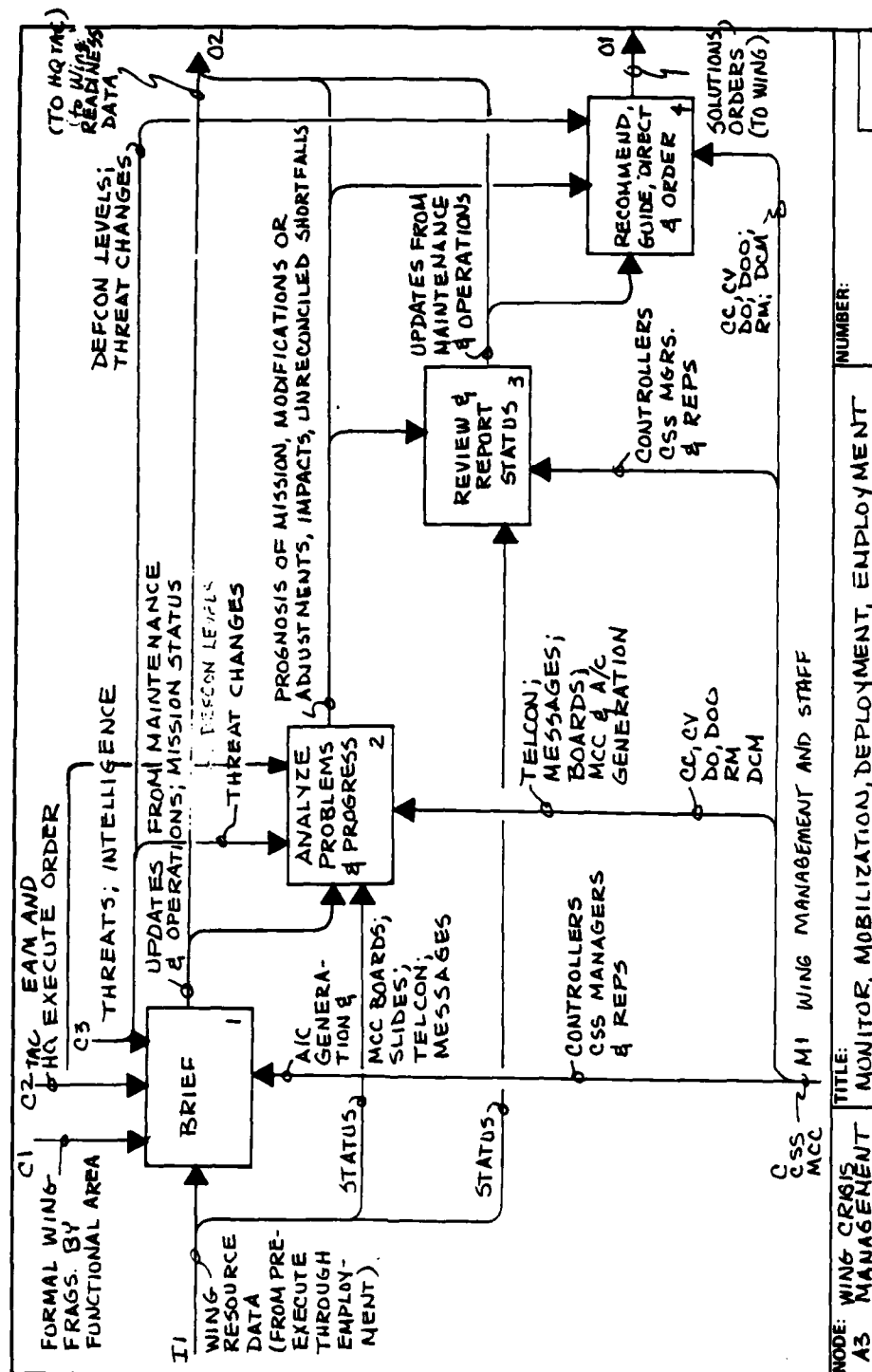
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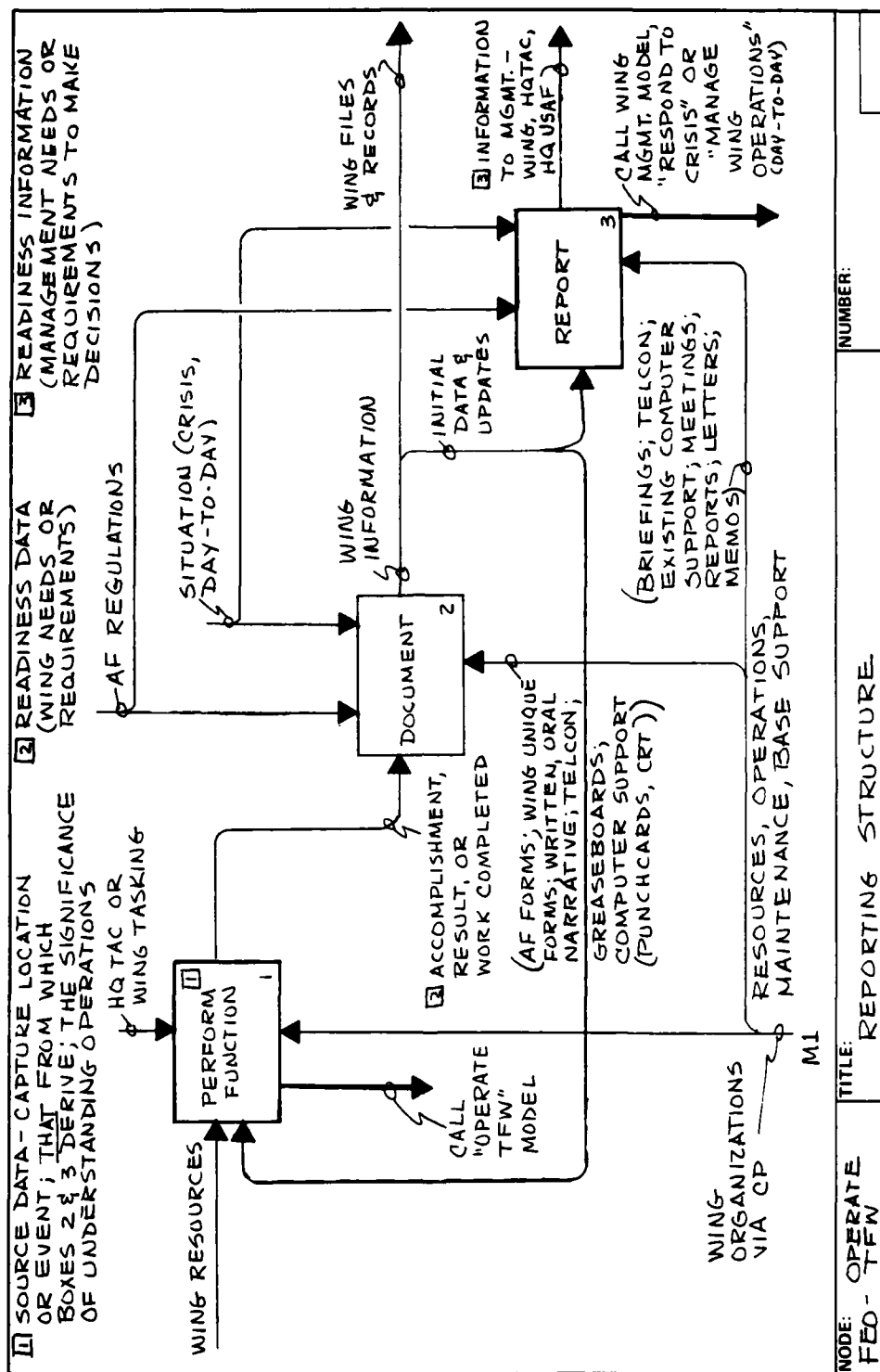






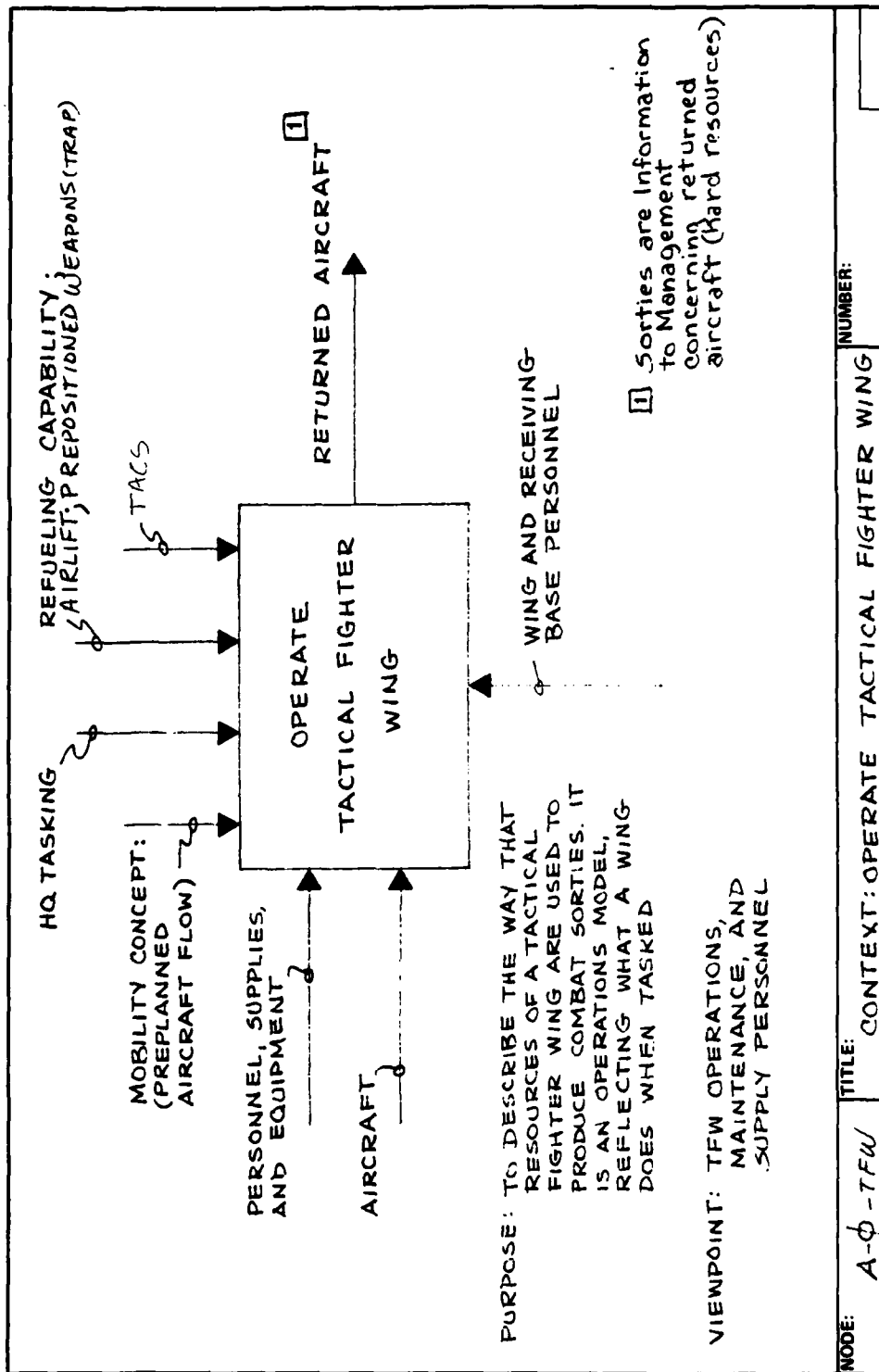


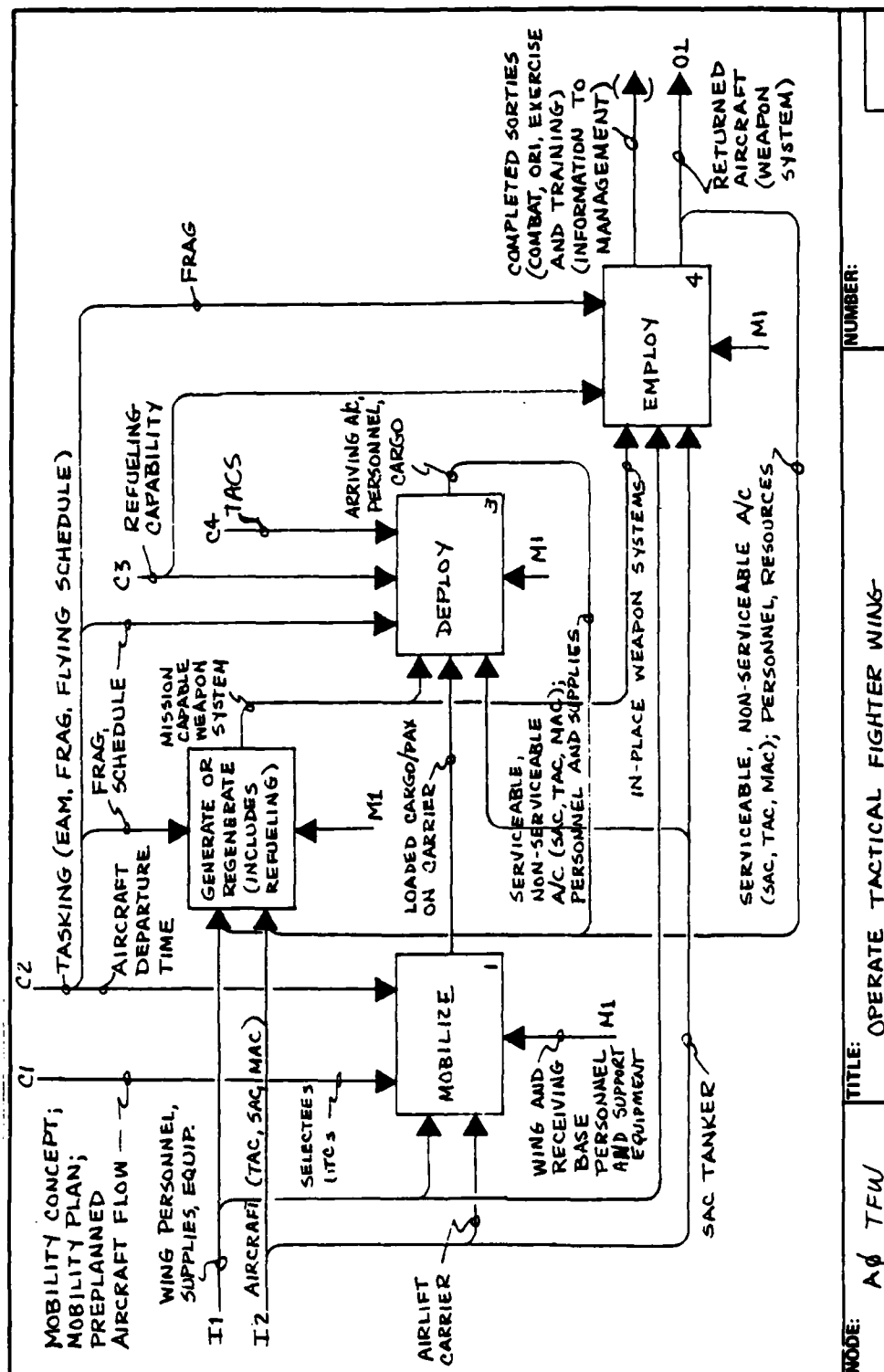
**MODEL 7 - TACTICAL FIGHTER WING
REPORTING STRUCTURE**



MODEL 8 - TACTICAL FIGHTER WING

OPERATE TACTICAL FIGHTER WING

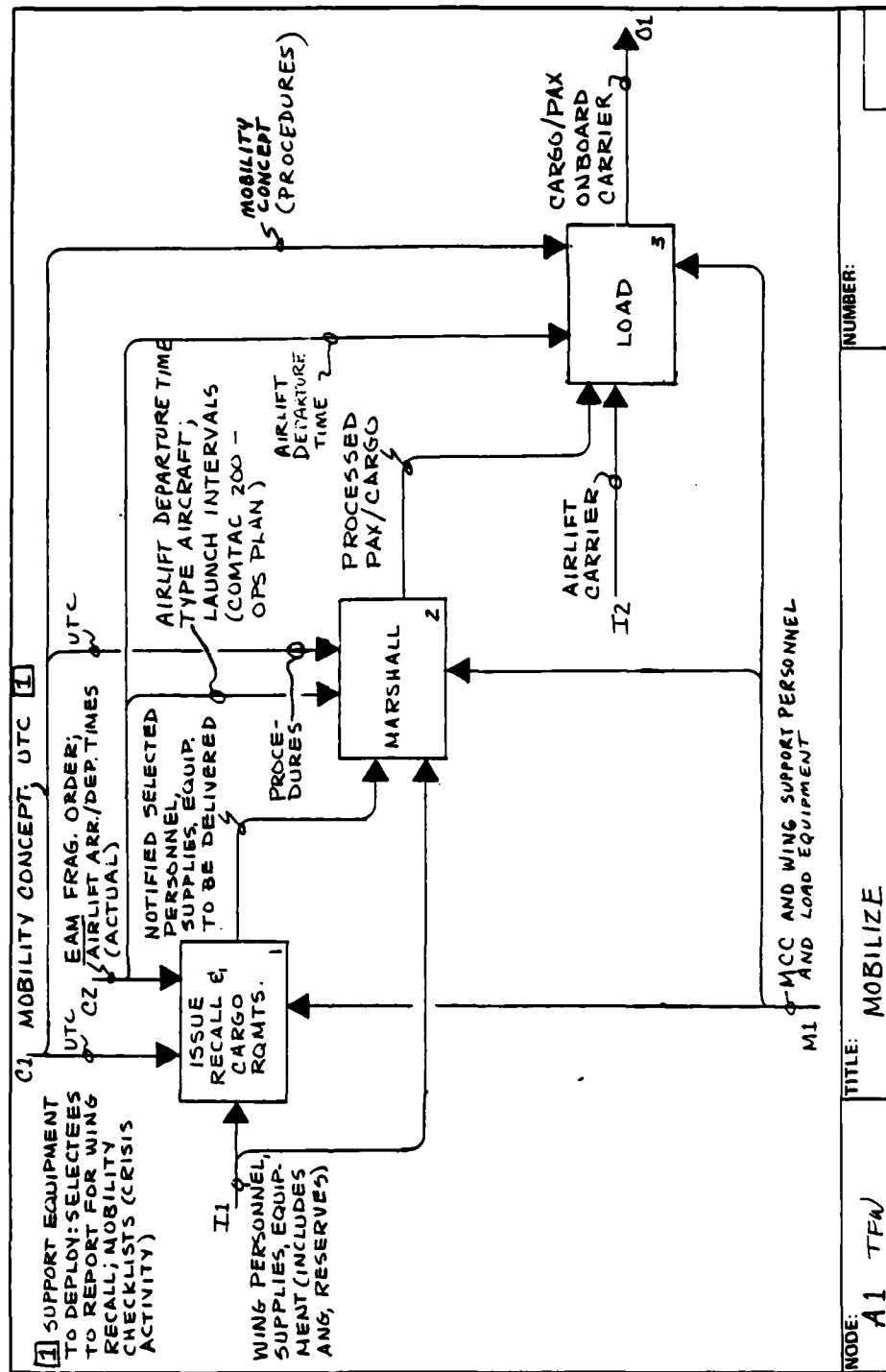


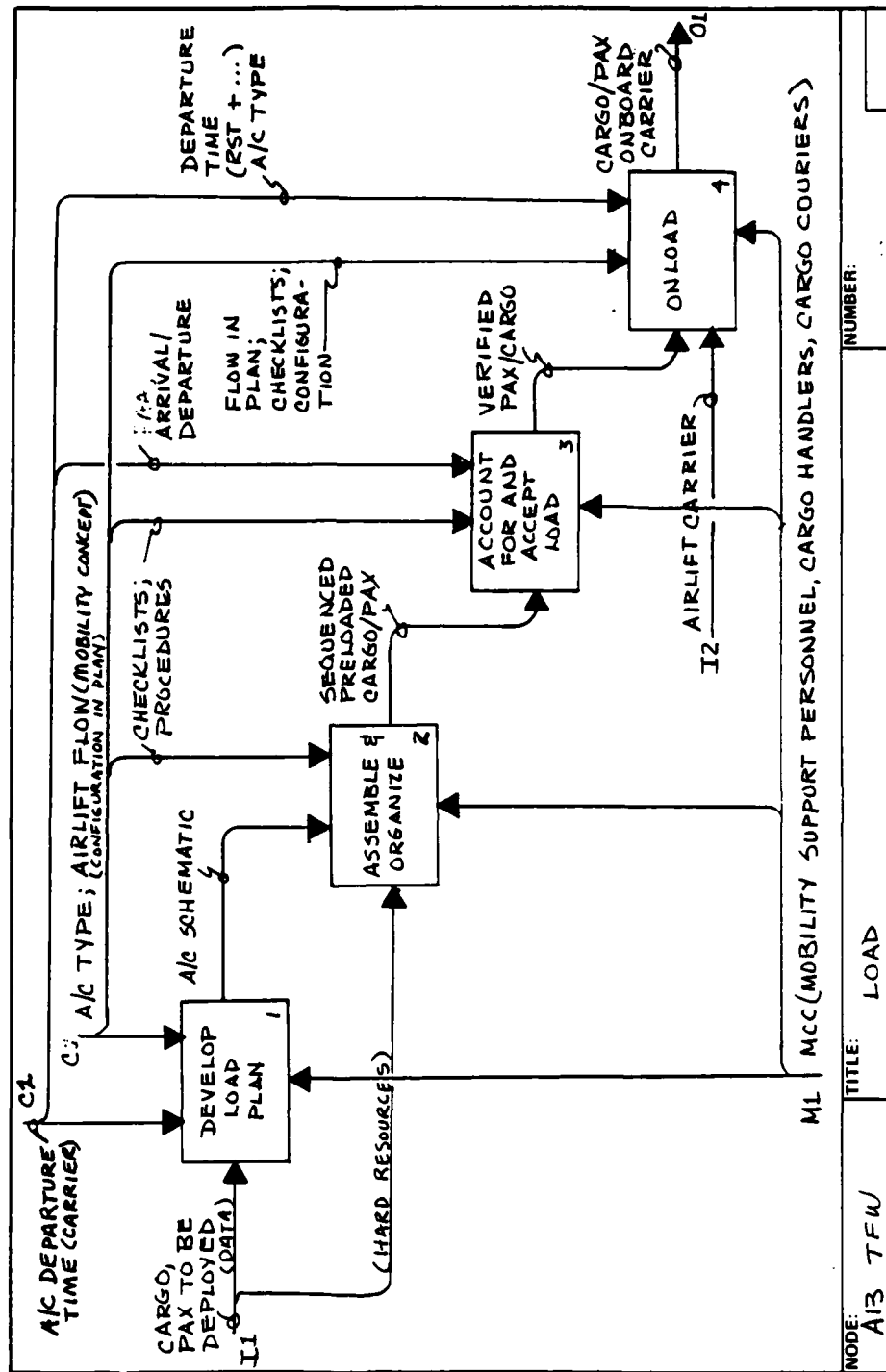


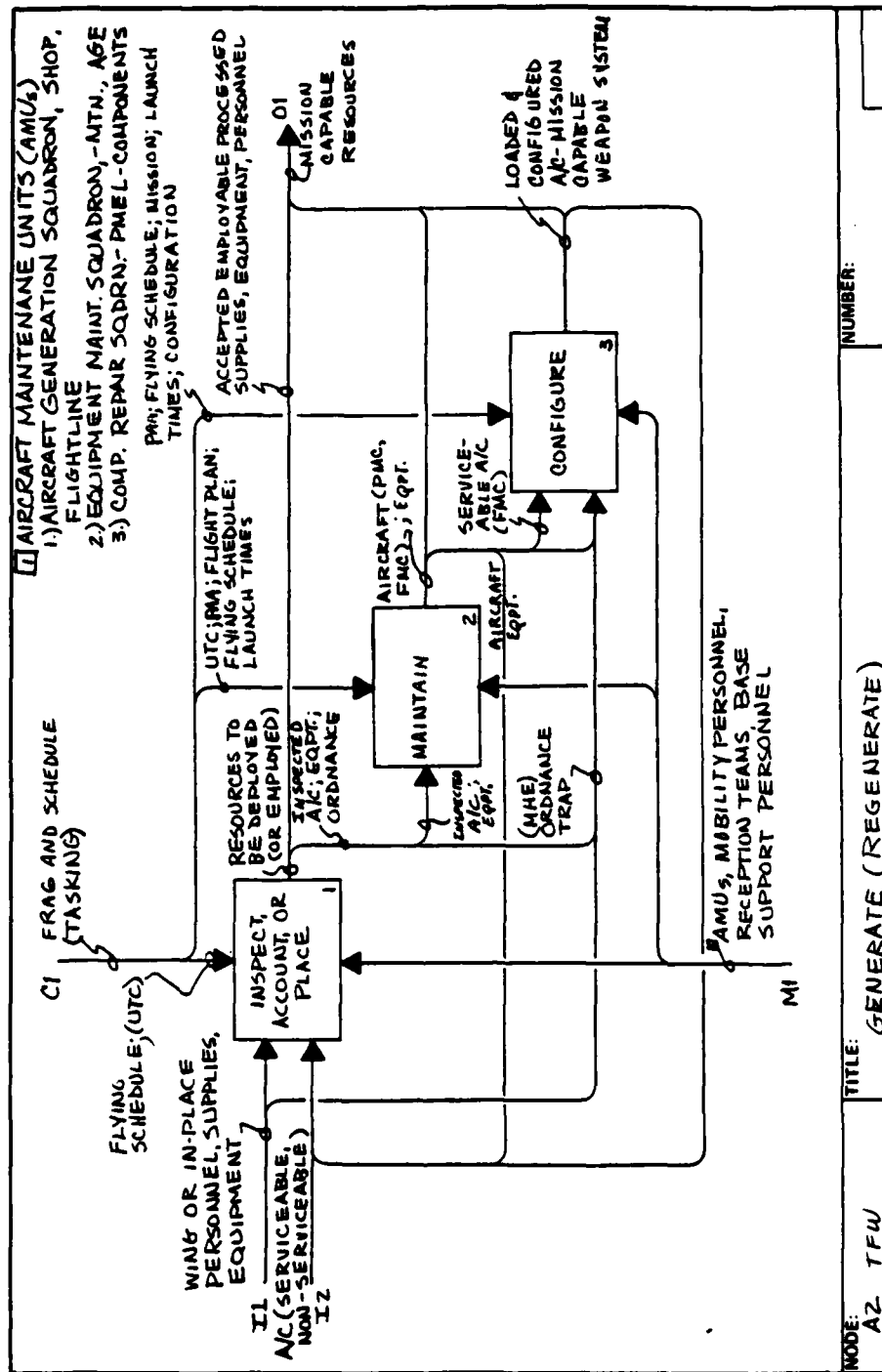
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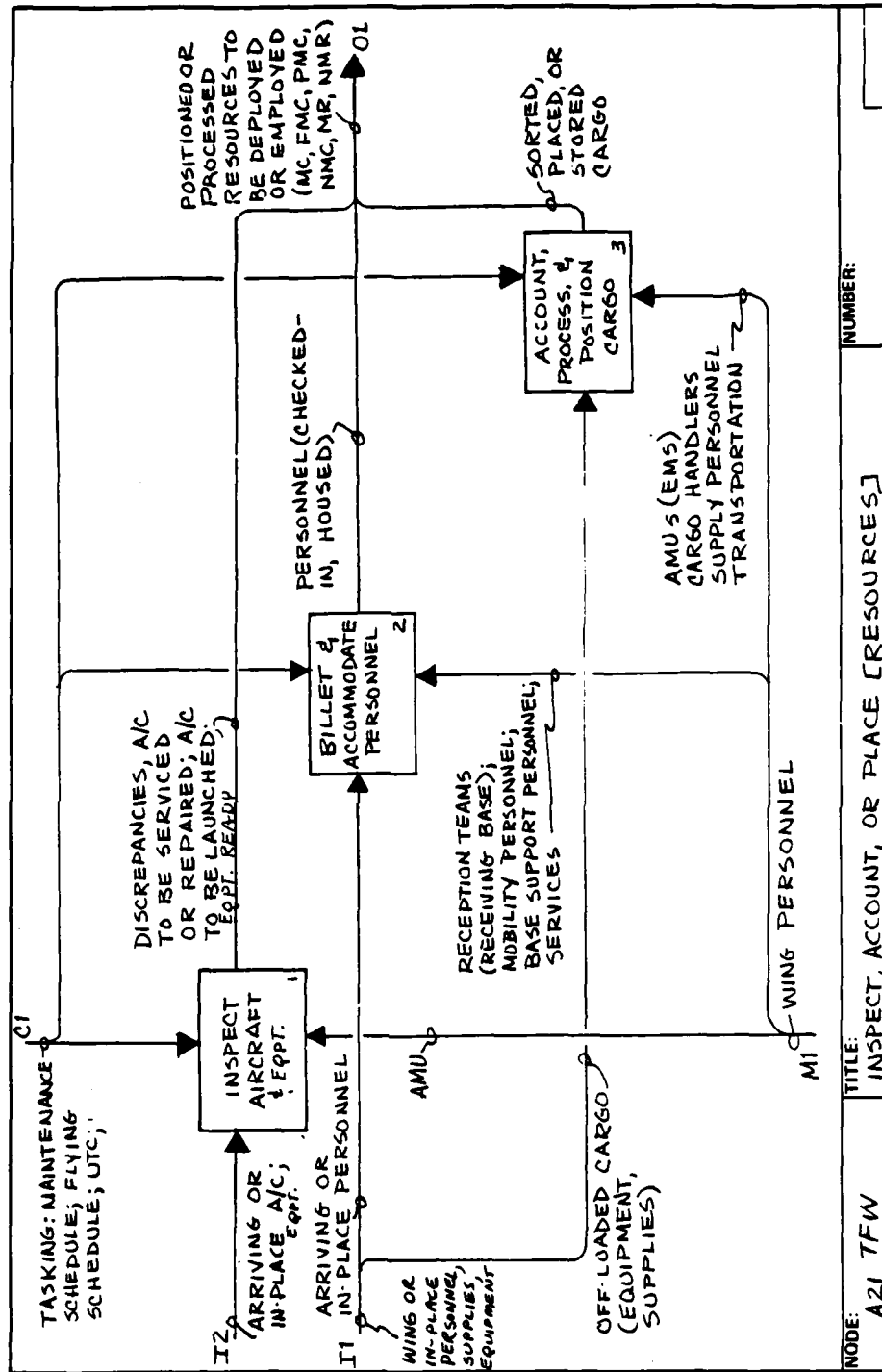
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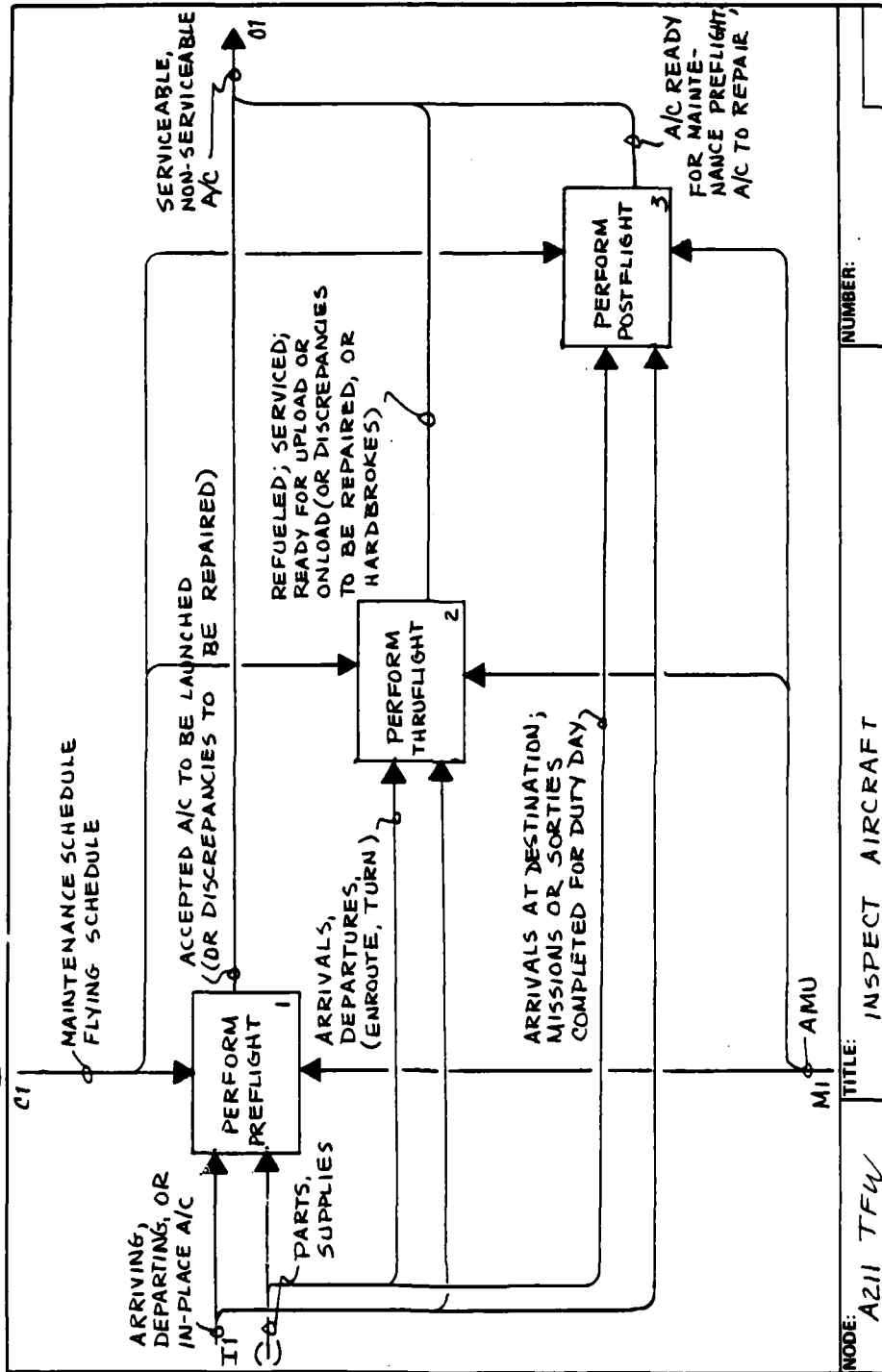






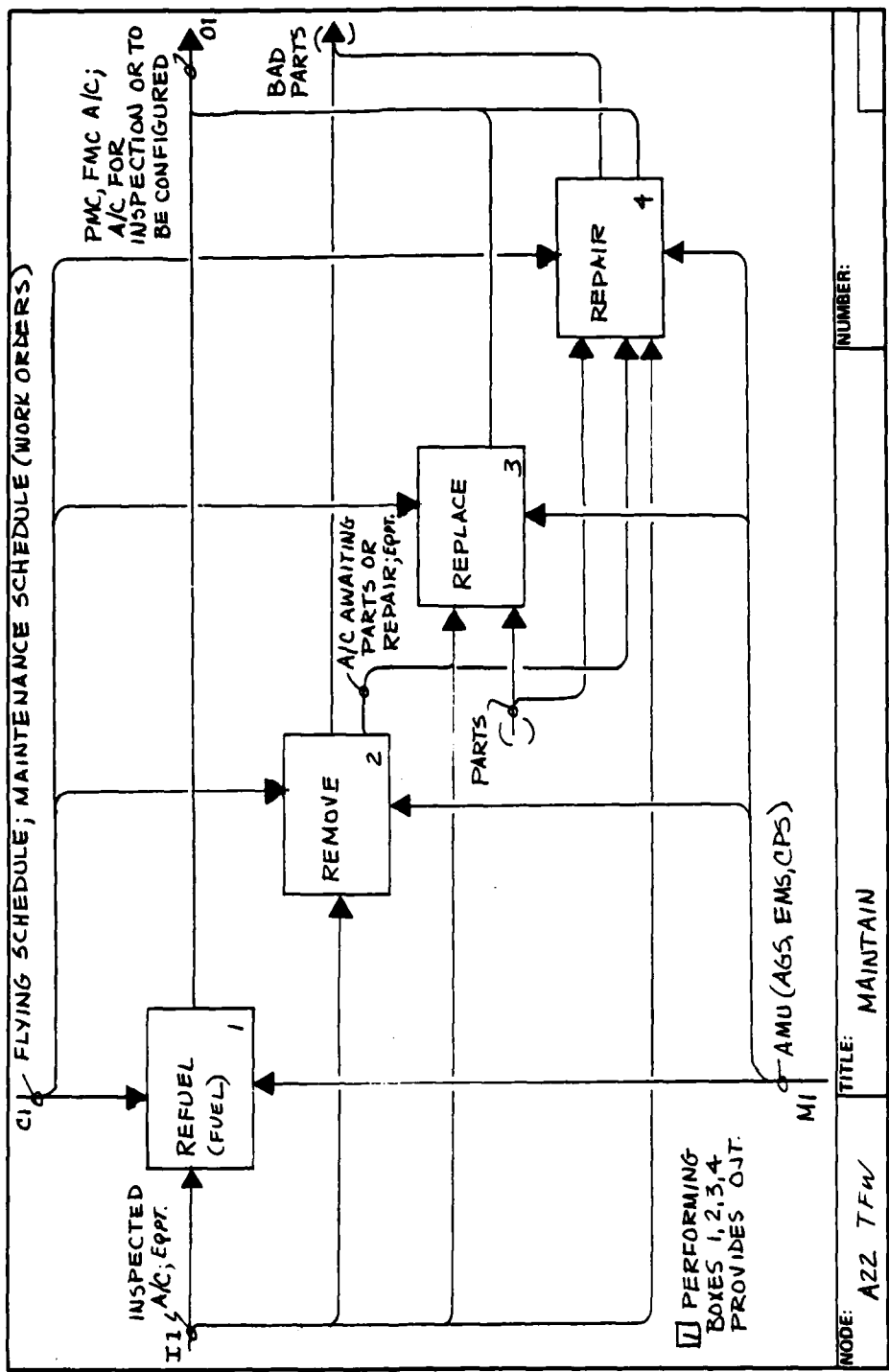


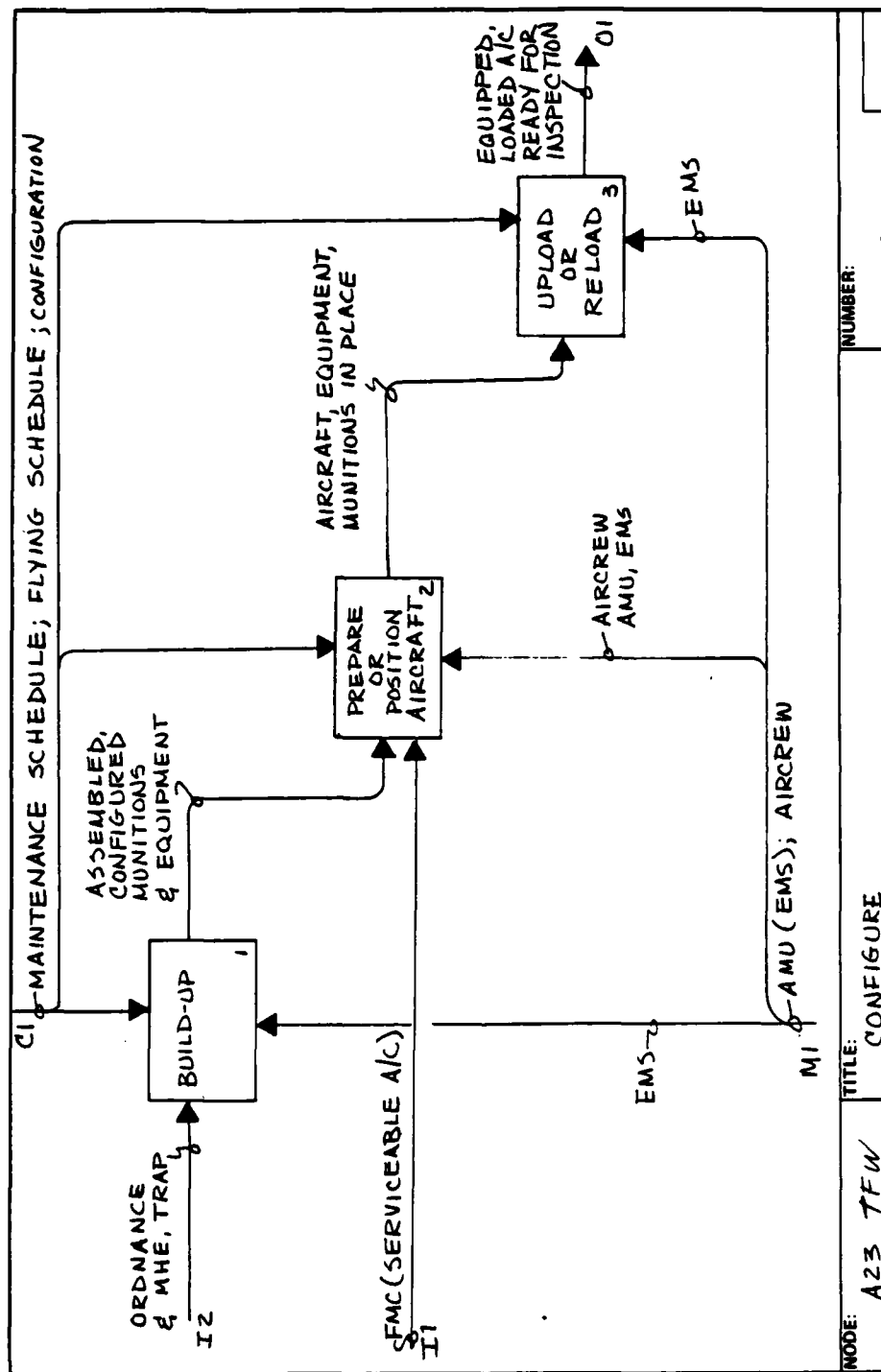
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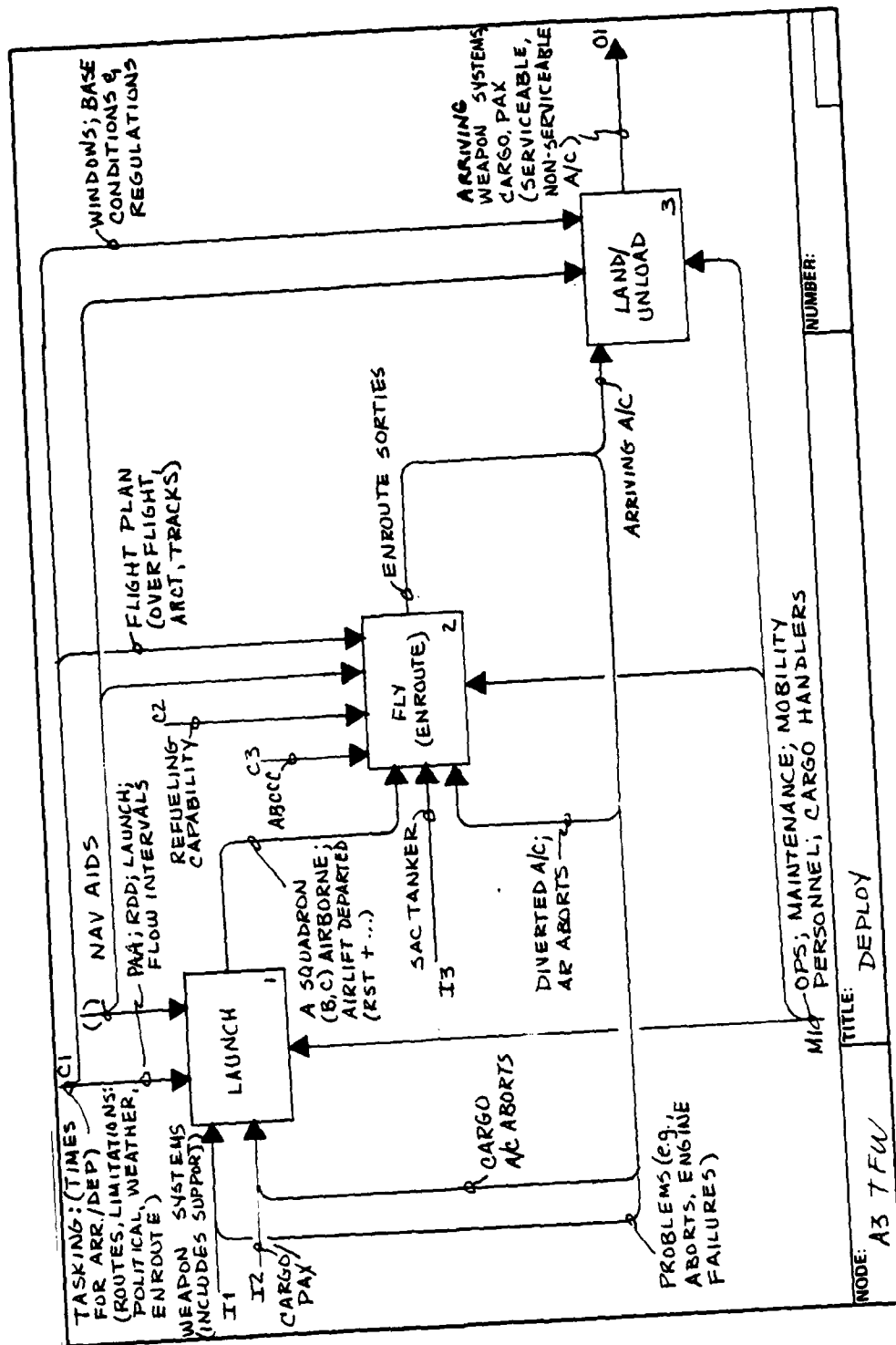


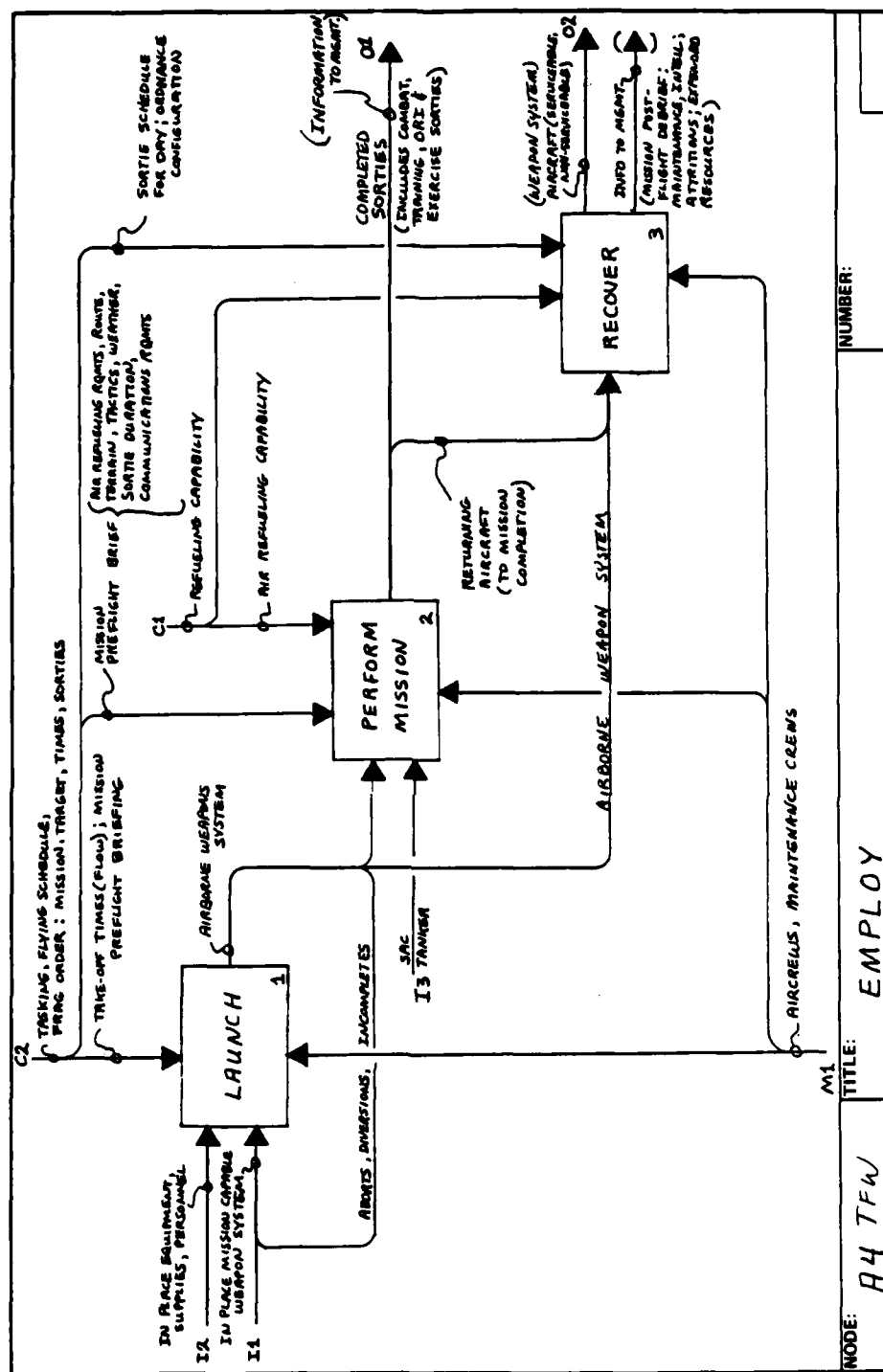
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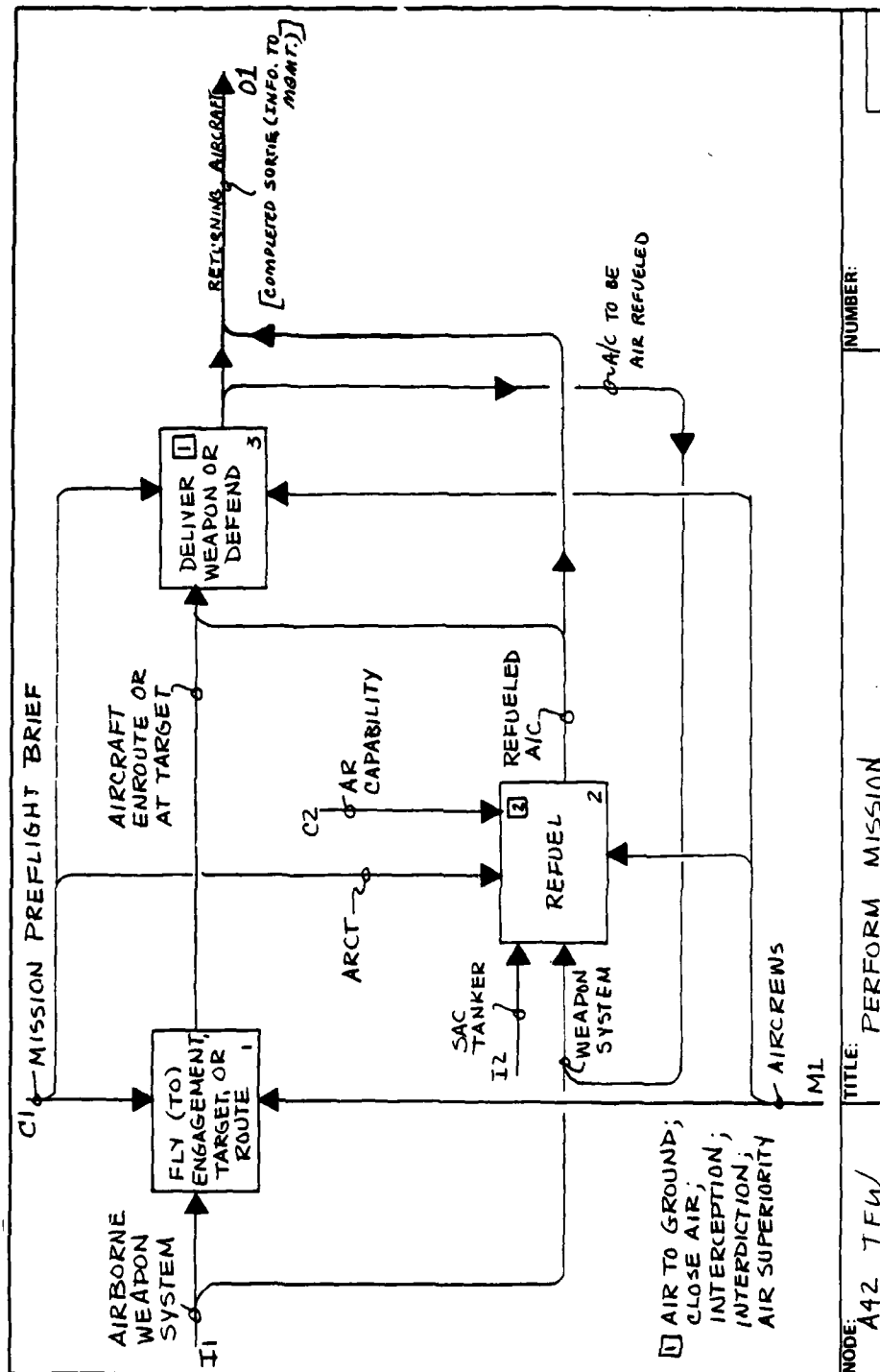
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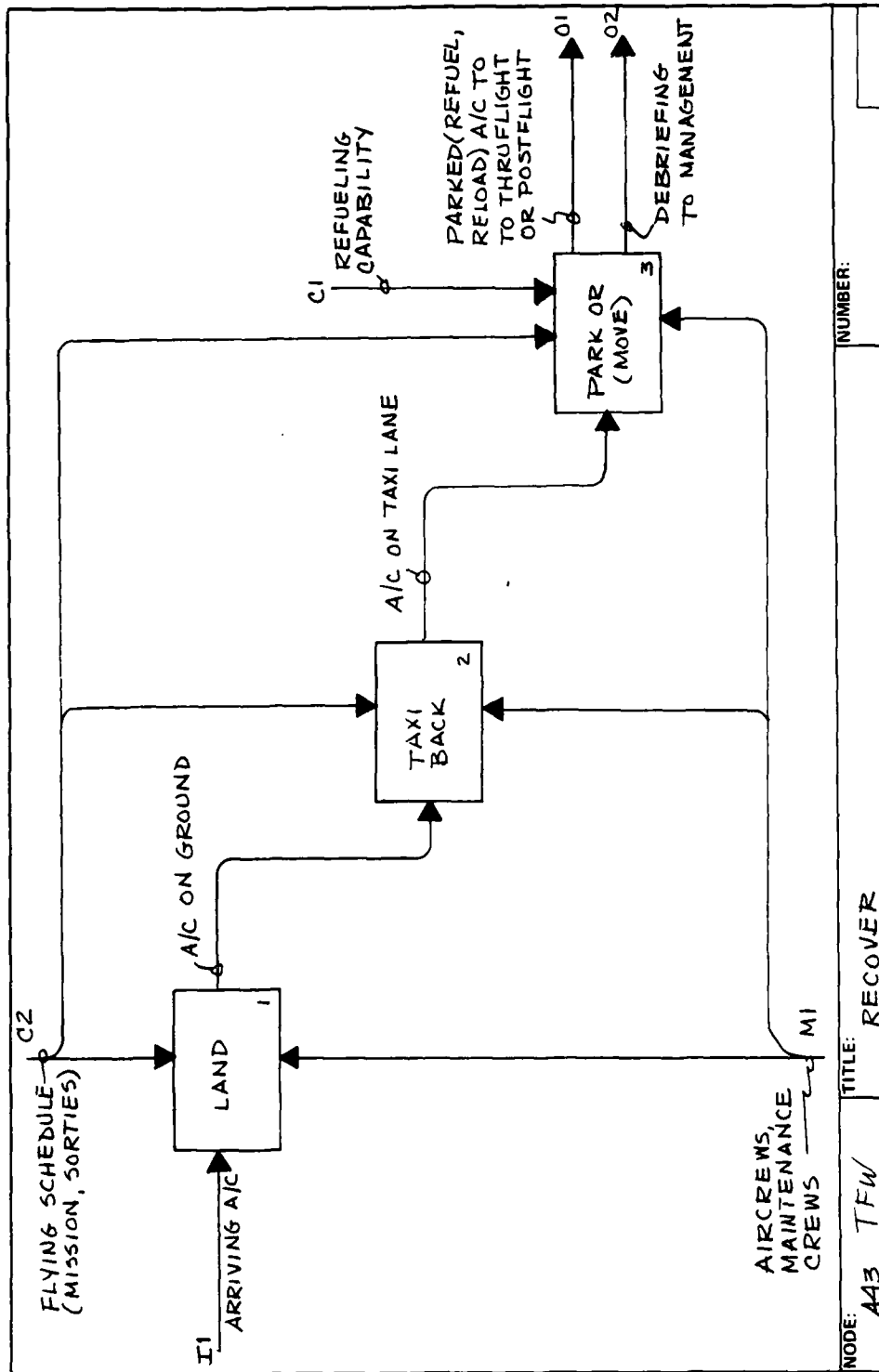












NUMBER:

TITLE: RECOVER

NODE: A43 TFW

SECRET

APPENDIX E
TERMS AND ABBREVIATIONS

APPENDIX E

Terms and Abbreviations

A	- Activity, as in an A0, A1, and A2 diagrams
ABCCC	- Airborne Command, Control Center
A and D	- Assembly and Distribution
A/C	- Aircraft
AFACB	- Air Force Comptroller and Budget
AFCC	- Air Force Component Commander
AFIRMS	- Air Force Integrated Readiness Measurement System
AFLANT	- Air Force Atlantic Command
AFLC	- Air Force Logistics Command
AFR	- Air Force Regulation
AFRED	- Air Force Readiness Command
AFRES	- Air Force Reserves
AFSC	- Air Force Specialty Code
AGS	- Aircraft Generation Squadron
AMU	- Aircraft Maintenance Unit
ANG	- Air National Guard
ARCT	- Air Refueling Control Time
CC	- Commanding Officer
CINC	- Commander in Chief
CMD	- Command
COMTAC	- Commander, Tactical Air Command
CONUS	- Continental United States
CP	- Command Post
CRS	- Component Repair Squadron
CSG	- Combat Support Group
CSS	- Contingency Support Staff
CV	- Vice Commander
DAR	- Data Automation Requirement
DCM	- Deputy Chief of Maintenance
DCO	- Deputy Commander for Operations
DefCon	- Defense Condition
DNIF	- Duty Not Involving Flying
DOC	- Designed Operational Capability
DoD	- Department of Defense

EAM	- Emergency Action Message
EMS	- Equipment Maintenance Squadron
EQPT	- Equipment
ETIC	- Expected Time in Commission
FAR	- Functional Area Requirement
FD	- Functional Description
FMC	- Fully Mission Capable
FOB	- Forward Operating Base
FORSTAT	- Force Status and Identity Report
FRAG	- Fragmentary Order
FYDP	- Five Year Defense Plan
GCC	- Graduated Combat Capability
HQ TAC	- Headquarters, Tactical Air Command
HQ USAF	- Headquarters, United States Air Force
INTELL	- Intelligence
JCS	- Joint Chiefs of Staff
JIEP	- Joint Intelligence Estimate for Planning
JSPD	- Joint Strategic Planning Document
JSPDSA	- Joint Strategic Planning Document Supporting Analysis
LE	- Logistics and Engineering
LRC	- Logistics Readiness Center
MAC	- Military Airlift Command
MAJCOM	- Major Command
MC	- Mission Capable
MCC	- Mobility Control Center
MDS	- Mission, Design, Series
MOB	- Main Operating Base
MP	- Manpower and Personnel
MPN	- Mobility Position Number
MR	- Mission Ready
MTN	- Munitions
MX	- Maintenance
NAF	- Numbered Air Force
NCA	- National Command Authority
NMC	- Not Mission Capable
NMR	- Not Mission Ready
NOR	- Not Operationally Ready

OPLANS	- Operations Plans
OPS	- Operations
OR	- Operationally Ready
ORI	- Operational Readiness Inspection
PAA	- Primary Authorized Aircraft
PACAF	- Pacific Air Force
PAX	- Passengers
PEM	- Program Element Monitor
PMC	- Partially Mission Capable
POL	- Petroleum, Oil, Lubricants
POM	- Program Objective Memorandum
PRC	- Personnel Readiness Center
RM	- Resource Management
RQMT	- Requirement
RST	- Reference Start Time
SAC	- Strategic Air Command
SADT	- Structured Analysis and Design Technique
SecDef	- Secretary of Defense
SITREP	- Situation Report
SOA	- Separate Operating Agency
SOP	- Standard Operating Procedures
SORTIE	- An operational flight of one aircraft; a mission ready aircraft with a qualified aircrew, properly configured, supported, and controlled to accomplish a stated mission
TA	- Table of Authorization
TAC	- Tactical Air Command
TAF	- Tactical Air Force
TFS	- Tactical Fighter Squadron
TFW	- Tactical Fighter Wing
TOA	- Total Obligational Authority
UCMS	- Unit Capability Measurement System
UE	- Unit Equipage
UNITREP	- Unit Status and Identity Report
USAFE	- United States Air Force Europe
UTC	- Unit, Type, Code
UTE Rate	- Utilization Rate

WMP	-	War Mobilization Plan
WRM	-	War Reserve Material
WRSK	-	War Readiness Spares Kit
WO	-	Plans and Operations
WOORM	-	Air Staff Readiness Measurement Group

APPENDIX F
RESOURCE DATA AND TASKING
INFORMATION ORDERED BY
FUNCTIONAL AREA

APPENDIX F

Resource Data and Tasking Information Ordered by Functional Area

The data in Appendix F is ordered by functional area. The data used to perform activities within a functional area are listed under each functional area heading. The AO diagrams in Section 3 describe the Air Force as an integration of functions, resources, and information. The Air Force is presented as a system. The information and resources pertaining to a functional area are not parsed in the eight overview diagrams. Appendix F is included so that functional area managers can readily find the types of data associated with their functional areas.

Notice the far left column, Model Reference, in each table in Appendix F. The notation appearing in this column by the entries is the cross reference key to the diagrams in Section 3. For example, the diagram node number, in this case all are AO; the diagram box number 1 through 6; and the box arrow position, for example I1, I2, or C3 are presented. For quick identification, the activity label in a diagram box is listed (e.g., Analyze Requirements) as well as the label on the arrow of interest around a box (e.g., Wing Resource Data). The data listed by the activities is intended to expand the labels on the arrows in the six AO general level diagrams in Section 3. (This expansion is actually done on working diagrams as models expand to a very detailed level.)

For readers not familiar with this structured analysis technique, the lists of detailed data ordered by functional area are presented so that further examination of detailed diagrams in Appendix D will not be necessary. For readers who wish to continue viewing the Air Force command levels as a system with integrated functions and information, Appendix D is available. (A brief explanation of how to read the diagrams is presented in Appendix C.)

After inspecting the data in Appendix F, the reader will notice that the lists of hard resources, such as equipment, people, and supplies are not exhaustive. Obviously, the lists will be expanded for detailed system design

purposes; however, the data presented at this time should convey an impression of the kind of readiness data needed to build an Air Force integrated readiness measurement system as well as the kinds of Air Force resources that readiness information should address.

First, we must begin by considering what information and resources are absolutely essential and critical to produce combat sorties. That is what the tactical fighter forces system addressed in this document is about: readiness to produce combat sorties and all of the supporting functions and resources that have to be integrated to do that.

Absolutely essential to the information required about an individual resource or set of resources is:

1. the resource type (name, identification, item)
2. its location (where it is, for immediate needs)
3. its quantity (how much or how many now)
4. its condition (available, not available, expected time of availability)
5. its performance characteristics (specifications, what it should do, how far it should go, how well can it perform in a situation)
6. its attrition rate (how long can it be used, how many have been expended, how many have been destroyed)
7. The current situation (from a reasonable stability to crisis response)

These seven implicit resource elements are not exhaustive; they are minimal. Overlying these elements is time, another facet of readiness. In the tactical fighter forces, time is critical to its main functions: mobilization, deployment, and employment. Therefore, readiness or capability to perform those three functions in time has to be considered. The seven basic elements about a resource must be known at all times to accurately and adequately express capability in terms of immediate sortie production capability.

Each resource data table that follows corresponds to an AO diagram in Section 3. Notice that the table titles match the AO diagram titles. Also, keep in mind that the data listed under a functional area does not imply that the data has to physically reside in that functional area.

**AIR STAFF: MODEL 1 MANAGE AIR FORCE RESOURCES
(DAY-TO-DAY)**

MODEL REFERENCE	AIR STAFF FUNCTIONAL AREAS			
	OPERATIONS	LOGISTICS	MANPOWER AND PERSONNEL	
A0.1 DETERMINE AF RESOURCE REQUIRE- MENTS				
C1 Required Force	Not applicable	Not applicable	Not applicable	Detailed description (which has been described in
C2 Executive and Congressional Guidance	Consolidated guidance, OMB guidelines, and congressional questions and statements	Consolidated guidance, OMB guidelines, and congressional questions and statements	Consolidated guidance, OMB guidelines, and congressional questions and statements	Consolidated congressional
C3 Perceived Threat	Outside system scope	Outside system scope	Outside system scope	Outside system
I1 New AF Resources	Not applicable	Not applicable	Not applicable	New system's scanner being
I2 Existing AF Resource Data	Existing resource levels and condition of aircraft, equipment, munitions, personnel, and supplies	Existing resource levels and condition of aircraft, equipment, munitions, and supplies	Existing personnel levels and skills	Existing resource aircraft, etc.
A0.2 OBTAIN RESOURCES				
C1 Programmed Force and Requirements	Not applicable	Not applicable	Not applicable	Programmed constrained attainable mission requirements and maintenance
C2 Consolidated Guidance	Consolidated guidance minimum, optimum and enhanced program levels	Consolidated guidance on minimum, optimum, and enhanced program levels	Consolidated guidance on minimum, optimum, and enhanced program levels	Consolidated optimum and
C3 Total Obligational Authority (TOA)	Total obligational authority apportioned by appropriation category	Total obligational authority apportioned by appropriation category	Total obligational authority apportioned by appropriation category	Total obligational appropriate
I1 POM and Budget Inputs	The last POM, FYDP, and budget, PEM, MAJCOM, and other briefings to panels	The last POM, FYDP, and budget, PEM, MAJCOM, and other briefings to panels	The last POM, FYDP, and budget, PEM, MAJCOM, and other briefings to panels	The last POM, MAJCOM, and
I2 Deficiencies	Discrepancies between requirements and authorizations or capability to expend for major equipment, support equipment, facilities, manning, training, etc.	Discrepancies between requirements and authorizations of capability to expend for major equipment, support equipment, facilities, manning, training, etc.	Discrepancies between requirements and authorizations for personnel and training	Discrepancies authorizations equipment
A0.3 MONITOR AND MANAGE				
C1 Authorizations	Obligational authority apportioned by command and appropriation categories	Obligational authority apportioned by command and appropriation categories	Obligational authority apportioned by command and appropriation categories	Not applicable
C2 Requirements	Mission, training, aircraft utilization, and manning requirements	Aircraft utilization, support equipment, supplies, maintenance personnel, and skill requirements	Manning and training requirements	Not applicable
C3 Perceived Threat	Outside system scope	Outside system scope	Outside system scope	Outside system
I1 Resource Status and Performance Data	Resource ID, location, number, and condition Aircrews by MAJCOM and weapon system Wing, squadron, unit Mission types Flying hours Performance	Resource ID, location, number and condition by MAJCOM (aircraft's (MDS), support equipment, supplies, maintenance personnel and skills	Personnel and skill levels by MAJCOM	Not applicable
I2 Readiness Data	Number and condition of critical resources by squadron matched to specific combat commitments. (All critical resources, especially aircrews) Shortfalls Quantity short	Number and condition of critical resources by wing or squadron matched to specific combat commitments. (Does not include aircrews) Shortfalls Quantity short	Skill levels and number of critical personnel by wing or squadron matched to specific combat commitments Shortfalls Quantity short	Not applicable

AIR STAFF FUNCTIONAL AREAS			
	LOGISTICS	MANPOWER AND PERSONNEL	PLANS
	<p>Not applicable</p> <p>Consolidated guidance, OMB guidelines, and congressional questions and statements</p> <p>Outside system scope</p> <p>Not applicable</p> <p>Existing resource levels and condition of aircraft, equipment, munitions, and supplies</p>	<p>Not applicable</p> <p>Consolidated guidance, OMB guidelines, and congressional questions and statements</p> <p>Outside system scope</p> <p>Not applicable</p> <p>Existing personnel levels and skills</p>	<p>Detailed description of the "Planning Force" (which has a reasonable assurance of success) described in number of wings and capability</p> <p>Consolidated guidance, OMB guidelines, and congressional questions and statements</p> <p>Outside system scope</p> <p>New systems, equipment, facilities, and personnel being added to AF inventory</p> <p>Existing resource levels and condition of aircraft, equipment, munitions, and supplies</p>
	<p>Not applicable</p> <p>Consolidated guidance on minimum, optimum, and enhanced program levels</p> <p>Total obligational authority apportioned by appropriation category</p> <p>The last POM, FYDP, and budget; PEM, MAJCOM, and other briefings to panels</p> <p>Discrepancies between requirements and authorizations of capability to expend for major equipment, support equipment, facilities, manning, training, etc.</p>	<p>Not applicable</p> <p>Consolidated guidance on minimum, optimum, and enhanced program levels</p> <p>Total obligational authority apportioned by appropriation category</p> <p>The last POM, FYDP, and budget; PEM, MAJCOM, and other briefings to panels</p> <p>Discrepancies between requirements and authorizations for personnel and training</p>	<p>Programmed force equals the planning force constrained by fiscal guidance (now called attainable force). Recommended resource mission requirements, training requirements (flying hours), A/C utilization requirements, and manning requirements</p> <p>Consolidated guidance on minimum, optimum, and enhanced program levels</p> <p>Total obligational authority apportioned by appropriation category</p> <p>The last POM, FYDP, and budget; PEM, MAJCOM, and other briefings to panels</p> <p>Discrepancies between requirements and authorizations for major equipment, support equipment, facilities, manning, training, etc.</p>
	<p>Obligational authority apportioned by command and appropriation categories</p> <p>Aircraft utilization, support equipment, supplies, maintenance personnel, and skill requirements</p> <p>Outside system scope</p> <p>Resource ID, location, number and condition by MAJCOM: aircraft's (MDS), support equipment, supplies, maintenance personnel and skills</p>	<p>Obligational authority apportioned by command and appropriation categories</p> <p>Manning and training requirements</p> <p>Outside system scope</p> <p>Personnel and skill levels by MAJCOM</p>	<p>Not applicable</p> <p>Not applicable</p> <p>Outside system scope</p> <p>Not applicable</p>
	<p>Number and condition of critical resources by wing or squadron matched to specific combat commitments. (Does not include aircrews)</p> <p>Shortfalls</p> <p>Quantity short</p>	<p>Skill levels and number of critical personnel by wing or squadron matched to specific combat commitments.</p> <p>Shortfalls</p> <p>Quantity short</p>	<p>Not applicable</p>

**TACTICAL AIR COMMAND: MODEL 2 MANAGE TACTICAL FIGHTER WINGS
(DAY-TO-DAY)**

MODEL REFERENCE	TACTICAL AIR COMMAND FUNCTIONAL AREAS			
	OPERATIONS	LOGISTICS	MANPOWER/PERSONNEL	
A0.1 ANALYZE REQUIREMENTS C1 Requirements C2 Perceived Threat C3 TFW Resource Data	Tasking within operations or contingency plans, Designed Operational Capability by squadron, flying hour requirements, utilization requirements, and JCS exercise requirement Outside system scope Major wing equipment and aircrew Aircraft (MDS) Aircrew GCC levels	Aircraft utilization rates Not applicable Major wing equipment Aircraft (MDS) MHE Spare engines	Not applicable Not applicable Personnel by squadron and AFSC Accessions Squadrons Skill levels	Tasking within operations or contingency plans, Designed Operational Capability by squadron Outside system scope Not applicable
A0.2 DEVELOP PLANS FOR ACCOMPLISHING REQUIREMENTS C1 TAC Planning Requirements C2 Flying Hours and UTE Rate C3 Authorizations I1 TFW Resource and Readiness Data I2 Shortfalls and Problems	Proposed TAC structure and training requirements for accomplishing the assigned missions, required JCS exercises, and operational requirements Total number of flying hours and flying hours by mission type Authorized wing PAA, table of authorization, level of expendables, and facilities Number, location, and condition of wing A/C and aircrews Discrepancies between requirements laid on wing and their level of achievement with reasons	Not applicable Aircraft utilization rates Authorized wing PAA, table of authorization (as applies to equipment, and supplies), levels of expendables and facilities Number, location, and condition of major wing equipment and critical supply levels Discrepancies between requirements laid on wing and their level of achievement with reasons	Not applicable Not applicable Table of authorization (manning level by AFSC -- skill levels) Number, location, and availability of critical personnel by AFSC Discrepancies between requirements laid on wing and their level of achievement with reasons	Proposed TAC structure and training requirements for accomplishing the assigned missions, required JCS exercises, and operational requirements Not applicable Authorized wing PAA Not applicable Discrepancies between requirements laid on wing and their level of achievement with reasons
A0.3 OBTAIN REQUIRED SUPPORT C1 TAC Plans, Training, and Exercise Schedule C2 Approved Budget I1 TFW Resource Data I2 TFW Budget Input and Supply Requests	TAC plans for accomplishing requirements (wartime and peacetime commitments), TM 51-50, and exercise schedule and requirements TAC TOA broken down by wing (based by appropriation category) Assigned and actual wing PAA and aircrews Quarterly SAC refueling support request	Not applicable TAC TOA broken down by wing (based by appropriation category) Assigned and actual wing PAA, facilities, equipment, and supplies Equipment, spare parts, and supply requests Quarterly MAC airlift support request	Not applicable TAC TOA broken down by wing (based by appropriation category) Assigned and actual wing manning by AFSC -- skill level Not applicable	TAC plans for accomplishing requirements (wartime and peacetime commitments), TM 51-50, and exercise schedule and requirements TAC TOA broken down by wing (based by appropriation category) Assigned and actual wing PAA and aircrews Wing budget input
A0.4 MONITOR PERFORMANCE C1 TAC Plans, Training, and Exercise Schedule and Requirements C2 Authorized Resource Levels I1 TFW Resource, Readiness and Requirements Completion Data	TAC plans for accomplishing its requirements, TM 51-50, and exercise schedule and requirements. Wing peacetime and wartime commitments Authorized wing PAA, table of authorized levels of expendables, and facilities Actual wing PAA, manning, facilities supplies and equipment (number, location, condition) and readiness to execute tasking with limiting factors	Not applicable Authorized wing PAA, table of authorized levels of expendables, and facilities Actual wing PAA, facilities, supplies, and equipment (number, location, condition) and readiness to execute tasking and limiting factors	Not applicable Not applicable Actual wing manning (AFSC -- skill level, location, availability) and readiness to execute tasking with personnel limiting factors and specific number of AFSC shortfalls	Not applicable Not applicable Not applicable

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TACTICAL AIR COMMAND FUNCTIONAL AREAS		
LOGISTICS	MANPOWER/PERSONNEL	PLANS
Tasking rates	Not applicable	Tasking within operations or contingency plans, Designed Operational Capability by squadron
Personnel	Not applicable Personnel by squadron and AFSC Accessions Squadrons Skill levels	Outside system scope Not applicable
Tasking rates	Not applicable	Proposed TAC structure and training requirements for accomplishing the assigned mission, required JCS exercises, and operational requirements Not applicable
PAA, table of authorization to equipment, and supportables and facilities	Table of authorization (manning level by AFSC - skill levels)	Authorized wing PAA
Number and condition of major and critical supply levels	Number, location, and availability of critical personnel by AFSC	Not applicable
Discrepancies between requirements laid on wing and their level of achievement with reasons	Discrepancies between requirements laid on wing and their level of achievement with reasons	Discrepancies between requirements laid on wing and their level of achievement with reasons
Tasking rates	Not applicable	TAC plans for accomplishing requirements
Tasking rates broken down by wing (base) by appropriation category	TAC TOA broken down by wing (base) by appropriation category	TAC TOA broken down by wing (base) by appropriations category
Assigned wing PAA, facilities, equipment, and supplies	Assigned and actual wing manning by AFSC - skill level	Assigned and actual wing PAA, manning, facilities, equipment, and supplies
Wing parts, and supply requests	Not applicable	Wing budget inputs or changes
Wing support request	Not applicable	Not applicable
PAA, table of authorized equipment, facilities, and supplies	Not applicable	Not applicable
Number, location, condition, and readiness to execute tasking and	Actual wing manning (AFSC - skill level, location, availability) and readiness to execute tasking with personnel limiting factors and specific number of AFSC shortfalls	Not applicable

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AIR FORCE INTEGRATED READINESS MEASUREMENT SYSTEM
FUNCTIONAL AREA REQUIREMENT(U) SOFTECH INC FALLS CHURCH
UAM 14 MAR 80 1031-2-5 MDA903-76-C-0396

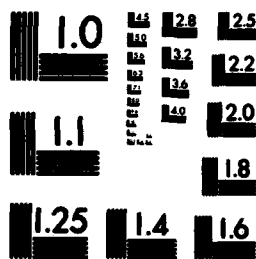
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**TACTICAL FIGHTER WING: MODEL 3 MANAGE WING OPERATIONS
(DAY-TO-DAY)**

MODEL REFERENCE	TACTICAL FIGHTER WING FUNCTIONAL AREAS			
	OPERATIONS	MAINTENANCE	RESOURCE MANAGEMENT	
A0 1 <u>ANALYZE WING REQUIREMENTS</u> C1 HQ TAC Requirements C2 Perceived Threat I1 Wing Resource and Performance Data	DOCs, training, exercise, and readiness requirements imposed by TAC Outside system scope Actual wing resource levels for A/C, crews, equipment, supplies, Aircrew GCC levels, A/C generation, mobilization, deployment	DOCs, training, exercise, and readiness requirements imposed by TAC Outside system scope Actual wing resource levels for A/C, A and D personnel and equipment, POL, MHE, load crews and equipment, spare engines, A/C Generation	DOCs, training, exercise, and readiness requirements imposed by TAC Outside system scope Actual wing resource levels for WRSK, WMR, MHE; mobilization and deployment	DOCs, training, exercise, and readiness requirements imposed by TAC Outside system scope Actual wing resource levels for WRSK, WMR, MHE; mobilization and deployment
A0 2 <u>PLAN USE OF RESOURCES</u> C1 Training, Combat, Exercise Requirements, SAC and MAC Requirements C2 Guidance C4 Perceived Threat I1 Current Profile	DOCs, training, exercise, and readiness requirements imposed by TAC; wing imposed requirements; and support requirements USAF and TAC regulations or SOP Outside system scope Aircrews (current skill levels by GCC, flying hours, and sorties by mission type)	DOCs, training, exercise, and readiness requirements imposed by TAC; wing imposed requirements; and support requirements USAF and TAC regulations or SOP Outside system scope Aircraft by tail number (OPS and MX records) maintenance equipment (number and condition by material item) Maintenance crews (AFSC and skill level)	Not applicable USAF and TAC regulations or SOP Outside system scope WRSK, WRM, MHE (number and condition by material item)	Not applicable USAF and TAC regulations or SOP Outside system scope WRSK, WRM, MHE (number and condition by material item)
A0 3 <u>OBTAIN RESOURCES</u> C1 Wing Program, OPS and Contingency Plans, Flying Activity C2 Authorizations C3 Training, Combat, Exercise Requirements, SAC and MAC Requirements C4 Perceived Threat I1 Inventory and Control	Long range wing schedule for flight training, AFSC training, exercises, A/C, and equipment maintenance Wing authorizations for PAA, equipment, expendable levels, and personnel by AFSC DOCs, training, exercise and readiness requirements imposed by TAC; wing imposed requirements; and support requirements Outside system scope Actual number and condition of material by item and personnel by AFSC: difference between authorized and assigned	Long range wing schedule for flight training, AFSC training, exercises, A/C, and equipment maintenance Wing authorizations for UE, equipment, and personnel by AFSC DOCs, training, exercise, and readiness requirements imposed by TAC; wing imposed requirements; and support requirements Outside system scope Actual number and condition of material by item and personnel by AFSC: difference between authorized and assigned	Not applicable Wing authorization for equipment, expendable levels, and personnel by AFSC Not applicable Outside system scope Actual number and condition of material by item and personnel by AFSC: difference between authorized and assigned	Not applicable Wing authorization for equipment, expendable levels, and personnel by AFSC Not applicable Outside system scope Actual number and condition of material by item and personnel by AFSC: difference between authorized and assigned
A0 4 <u>CONTROL USE OF RESOURCES</u> C1 Wing Program, OPS and Contingency Plans, Flying Activity C2 Training, Combat, Exercise Requirements, SAC and MAC Requirements C3 Perceived Threat I1 Availability and Status	Long range wing schedule for flight training, AFSC training, exercises, A/C and equipment maintenance DOCs, training, exercise, and readiness requirements imposed by TAC; wing imposed requirements; and support requirements Outside system scope Number, condition, and location of material by item, AFSC, skill level, and duty status (TDY, leave, sick) by individual	Long range wing schedule for flight training, AFSC training, exercises, A/C and equipment maintenance DOCs, training, exercise, and readiness requirements imposed by TAC; wing imposed requirements; and support requirements Outside system scope Number, condition, and location of material by item, AFSC, skill level, and duty status (TDY, leave, sick) by individual	Not applicable Not applicable Outside system scope Number, condition, and location of material by item, AFSC, skill level, and status (TDY, leave, sick) by individual	Not applicable Not applicable Outside system scope Number, condition, and location of material by item, AFSC, skill level, and status (TDY, leave, sick) by individual
A0 5 <u>REPORT TO WING AND HQ TAC</u>	Not applicable	Not applicable	Not applicable	Not applicable

TACTICAL FIGHTER WING FUNCTIONAL AREAS

MAINTENANCE	RESOURCE MANAGEMENT	SUPPORT GROUP
Exercise and readiness imposed by TAC System scope Resource levels for A/C, A and B, equipment, POL, MHE, ground equipment, spare engines, etc.	DOCs, training, exercise, and readiness requirements imposed by TAC Outside system scope Actual wing resource levels for WRSK, WMR, MHE, mobilization and deployment	DOCs, training, exercise, and readiness requirements imposed by TAC Outside system scope Actual wing resource levels for personnel, skills, vehicles, ground fuels, facilities, security personnel, and equipment
Exercise and readiness imposed by TAC, wing im- plements, and support require- ments AFSC regulations or SOP System scope Number (OPS and MX) Maintenance equipment (number by material item) Personnel (AFSC and skill level)	Not applicable USAF and TAC regulations or SOP Outside system scope WRSK, WRM, MHE (number and condition by material item)	Not applicable USAF and TAC regulations or SOP Outside system scope Personnel (by AFSC and skill level) vehicles (number and condition by item) facilities (e.g., runways, ramps, ranges, etc.)
Wing schedule for flight AFSC training, exercises, A/C, and maintenance Authorizations for UE, equipment, and personnel by AFSC Exercise and readiness re- quirements imposed by TAC, wing imposed and support requirements System scope Number and condition of material by item and personnel by AFSC: difference between authorized and assigned	Not applicable Wing authorization for equipment, expend- able levels, and personnel by AFSC Not applicable Outside system scope Actual number and condition of material by item and personnel by AFSC: difference between authorized and assigned	Not applicable Wing authorizations for equipment, expend- able levels, and personnel by AFSC Not applicable Outside system scope Actual number and condition of material by item and personnel by AFSC: difference between authorized and assigned
Wing schedule for flight AFSC training, exercises, A/C and maintenance Exercise and readiness requirements imposed by TAC, wing im- plements, and support require- ments System scope Number, condition, and location of material by item, AFSC, skill level, and status (TDY, leave, sick) by individual	Not applicable Not applicable Outside system scope Number, condition, and location of material by item, AFSC, skill level, and status (TDY, leave, sick) by individual	Not applicable Not applicable Outside system scope Number, condition, and location of material by item, AFSC, skill level, and status (TDY, leave, sick) by individual
Not applicable	Not applicable	Not applicable

**AIR STAFF: MODEL 4 SUPPORT CRISIS PREPARATION AND EXECUTION
(CONTINGENCY)**

MODEL REFERENCE	AIR STAFF FUNCTIONAL AREAS			
	OPERATIONS	LOGISTICS	MANPOWER AND PERSONNEL	
A0.1 ANALYZE SITUATION				
C1 JCS Orders	JCS alert and warning orders	JCS alert and warning orders	JCS alert and warning orders	JCS alert and
C2 Political Limitations	Crisis response constraints on overflight and landing rights imposed by State Dept. and enemy alliances	Not applicable	Not applicable	Crisis respons landing rights enemy allianc
I1 CINC Estimate	Outside system scope	Outside system scope	Outside system scope	Outside system
I2 Intelligence and Resource Data	The deployment or employment readiness of each wing	Wing readiness limiting factors	Wing readiness limiting factors	The deploym each wing
A0.2 DEVELOP COMBAT OPTIONS				
C1 CSS Estimate	Outside system scope	Outside system scope	Outside system scope	Outside system
C2 Political Limitations	International flight restrictions on over flights, landings and enroute support	International flight restrictions on over flights, landings and enroute support	Not applicable	International flights, landin
C3 Existing Operations and Contingency Plans	Existing plans relevant for this area or situation	Not applicable	Not applicable	Existing plans situation
I1 Combat Units Resource and Readiness Data	Wing deployment or employment readiness plus location, MDS configuration, and GCC level	Not applicable	Not applicable	Wing deploym plus location, level
I2 Changes	Information on changes to situation, readiness, limitations, or restrictions	Information on changes to situation, readiness, limitations, or restrictions	Information on changes to situation, readiness, limitations, or restrictions	Information o readiness, limi
A0.3 DEVELOP SUPPORT AND AUGMENTATIONS				
C1 Combat Unit Options and Shortfalls	Options to deploy or employ specific units to improve balance or retaliate, and option limitations	Options to deploy or employ specific units to improve balance or retaliate, and option limitations	Options to deploy or employ specific units to improve balance or retaliate, and option limitations	Options to de units to imprc option limitat
C2 Plans	Relevant contingency plans indicating potential augmentation options	Relevant contingency plans indicating potential augmentation options	Relevant contingency plans indicating potential augmentation options	Relevant cont potential augr
C3 Political Limitations	International restrictions on overflights, landings, and enroute support	International restrictions on overflights, landings, and enroute support	International restrictions on overflights, landings, and enroute support	International landings, and
I1 Support Unit Location, Resources and Readiness Data	Location and readiness of units with potentiality for reducing shortfalls	Number and condition of required material, enroute support	Number, location, and condition of required personnel	Location and potentiality fo
I2 Changes	Information on changes to situation, readiness, limiting factors or restrictions	Information on changes to situation, readiness, limiting factors, or restrictions	Information on changes to situation, readiness, limiting factors, or restrictions	Information o readiness, limi
A0.4 MONITOR DEPLOYMENT AND EMPLOYMENT				
C1 Combat and Support Options and Shortfalls	Options for unit deployment, employment or support with limiting factors on each option	Options for unit deployment, employment or support with limiting factors on each option	Options for unit deployment, employment or support with limiting factors on each option	Options for u or support wit option
C2 Political Limitations	International flight restrictions	Not applicable	Not applicable	Not applicabl
C3 Tasking	Selected options, units, and support tasking	Not applicable	Not applicable	Not applicabl
I1 Mission Status Data	Feedback from the tasked units on their actions and performance against the tasked schedule	Not applicable	Not applicable	Not applicabl

EXECUTION

AIR STAFF FUNCTIONAL AREAS

LOGISTICS	MANPOWER AND PERSONNEL	PLANS
<p>Alert and warning orders</p> <p>Not applicable</p> <p>System scope</p> <p>Wing readiness limiting factors</p>	<p>JCS alert and warning orders</p> <p>Not applicable</p> <p>Outside system scope</p> <p>Wing readiness limiting factors</p>	<p>JCS alert and warning orders</p> <p>Crisis response constraints on overflight and landing rights imposed by State Dept. and enemy alliances</p> <p>Outside system scope</p> <p>The deployment or employment readiness of each wing</p>
<p>System scope</p> <p>International flight restrictions on overflights and enroute support</p> <p>Through route</p> <p>Not applicable</p> <p>Not applicable</p> <p>Information on changes to situation, readiness, limitations, or restrictions</p>	<p>Outside system scope</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>Information on changes to situation, readiness, limitations, or restrictions</p>	<p>Outside system scope</p> <p>International flight restrictions on overflights, landings and enroute support</p> <p>Existing plans relevant for this area or situation</p> <p>Wing deployment or employment readiness plus location, MDS configuration, and GCC level</p> <p>Information on changes to situation, readiness, limitations, or restrictions</p>
<p>Options to deploy or employ specific units to improve balance or retaliate, and option limitations</p> <p>Relevant contingency plans indicating potential augmentation options</p> <p>International restrictions on overflights, landings, and enroute support</p> <p>Number, location, and condition of required personnel</p> <p>Information on changes to situation, readiness, limiting factors, or restrictions</p>	<p>Options to deploy or employ specific units to improve balance or retaliate, and option limitations</p> <p>Relevant contingency plans indicating potential augmentation options</p> <p>International restrictions on overflights, landings, and enroute support</p> <p>Number, location, and condition of required personnel</p> <p>Information on changes to situation, readiness, limiting factors, or restrictions</p>	<p>Options to deploy or employ specific units to improve balance or retaliate, and option limitations</p> <p>Relevant contingency plans indicating potential augmentation options</p> <p>International restrictions on overflights, landings, and enroute support</p> <p>Location and readiness of units with potentiality for reducing shortfalls</p> <p>Information on changes to situation, readiness, limiting factors, or restrictions</p>
<p>Options for unit deployment, employment or support with limiting factors on each option</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p>	<p>Options for unit deployment, employment or support with limiting factors on each option</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p>	<p>Options for unit deployment, employment or support with limiting factors on each option</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p>

**TAC: MODEL 5 PREPARE AND MANAGE CRISIS
(CONTINGENCY)**

MODEL REFERENCE	TAC FUNCTIONAL AREAS			
	OPERATIONS	LOGISTICS	MANPOWER AND PERSONNEL	
A0.1 MAKE FORCE DECISIONS C1 JCS Orders C2 Assessments I1 Plans I2 Intelligence and Resource Information	JCS alert and warning orders Outside system scope Relevant contingency plans for crisis area Squadron DOCs, deploy/employ readiness, aircrew GCC levels and oversea flight experience	JCS alert and warning orders Outside system scope Not applicable Not applicable	JCS alert and warning orders Outside system scope Not applicable Not applicable	JCS alert and warning orders Outside system scope Relevant contingency plans for crisis area Not applicable
A0.2 PLAN EXECUTIONS C1 Specified Missions and Units C2 Restrictions I1 Plans I2 Resource Data	Units selected for deployment or employment and their assigned missions Air picture between launch and receiving bases - restricted areas, weather, available enroute bases with their support capability Relevant contingency plans for crisis area Squadron DOCs, deploy/employ readiness, aircrew GCC levels, and oversea flight experience	Units selected for deployment or employment and their assigned missions Available enroute bases with their support capability Not applicable Not applicable	Units selected for deployment or employment and their assigned missions Not applicable Not applicable Not applicable	Units selected for deployment or employment and their assigned missions Not applicable Relevant contingency plans for crisis area Not applicable
A0.3 COORDINATE MISSION SUPPORT C1 Tasking C2 Restrictions C3 Assessments I1 Resource Information I2 Problems and Deficiencies	Wing and squadron tasking: PAA, configuration, mission, destination, schedule and route options US aircraft restricted areas, weather, available enroute bases and support capability Outside system scope Tasked unit PAA, MDS, A/C configuration, number mission ready and available, fueling requirements, site survey, and beddown support capability for the selected MDS, aircrews and support personnel Discrepancies between tasking and performance along with reasons, previous exercise feedback	Wing and squadron tasking: PAA, configuration, mission, destination, schedule and route options Enroute bases and support capabilities Outside system scope Tasked unit MDS, A/C configuration, fueling requirements, condition and location: site survey and beddown support capability for selected MDS, aircrews and support personnel Discrepancies between tasking and performance along with reasons	Wing and squadron tasking: PAA, configuration, mission, destination, schedule and route options Not applicable Not applicable Not applicable Discrepancies between tasking and performance along with reasons	Wing and squadron tasking: PAA, configuration, mission, destination, schedule and route options Not applicable Not applicable Not applicable Discrepancies between tasking and performance along with reasons
A0.4 MAKE EXECUTION DECISION C1 Combat and Support Tasking I1 Combat and Support Tasking I2 Tasked Unit Readiness	JCS execute order Specific wing and squadron tasking; deploy/employ mission and schedule; support tasking; deployment; enroute command and control, refueling, maintenance; beddown support for A/C, aircrews, support personnel and airlift offload and turnaround Time required to deploy and capability to generate sorties in X hours	JCS execute order Specific wing and squadron tasking; deploy/employ mission and schedule; support tasking; deployment, enroute refueling, maintenance; beddown support for A/C, aircrews, support personnel and airlift offload and turnaround Time required to deploy and capability to generate sorties in X hours	JCS execute order Not applicable Not applicable	JCS execute order Not applicable Not applicable

TAC FUNCTIONAL AREAS		
LOGISTICS	MANPOWER AND PERSONNEL	PLANS
Alert and warning orders Outside system scope Not applicable Not applicable	JCS alert and warning orders Outside system scope Not applicable Not applicable	JCS alert and warning orders Outside system scope Relevant contingency plans for crisis area Not applicable
Units selected for deployment or employment and their assigned missions Stable enroute bases with their support capability Not applicable Not applicable	Units selected for deployment or employment and their assigned missions Not applicable Not applicable Not applicable	Units selected for deployment or employment and their assigned missions Not applicable Relevant contingency plans for crisis area Not applicable
Wing and squadron tasking: PAA, configuration, mission, destination, schedule and route options Stable bases and support capabilities Outside system scope Unit MDS, A/C configuration, fuel requirements, condition and location: enroute and beddown support capability Assigned MDS, aircrews and support personnel Discrepancies between tasking and performance along with reasons	Wing and squadron tasking: PAA, configuration, mission, destination, schedule and route options Not applicable Not applicable Not applicable Discrepancies between tasking and performance along with reasons	Wing and squadron tasking: PAA, configuration, mission, destination, schedule and route options Not applicable Not applicable Not applicable Discrepancies between tasking and performance along with reasons
Execute order Wing and squadron tasking; employ mission and schedule; tasking, deployment, enroute support, maintenance; beddown support; aircrews, support personnel and payload and turnaround Required to deploy and capability to execute sorties in X hours	JCS execute order Not applicable Not applicable	JCS execute order Not applicable Not applicable

TAC: MODEL 5 PREPARE AND MANAGE CRISIS (Continued)
(CONTINGENCY)

MODEL REFERENCE	TAC FUNCTIONAL AREAS			
	OPERATIONS	LOGISTICS	MANPOWER AND PERSONNEL	PLAN
A0.5 MONITOR AND CON- TROL DEPLOYMENT				
C1 Execute Order	TAC execute order	TAC execute order	TAC execute order	TAC execute order
C2 Tasking	Tasking for deployment/employment, support and beddown (see A0.4 I1)	Tasking for deployment/employment, support and beddown (see A0.4 I1)	Not applicable	Not applicable
I1 Enroute and Inplace Status	Location and condition of generated or launched aircraft, marshalled or deployed material and personnel	Location and condition of generated or launched aircraft, marshalled or deployed material and personnel	Location and condition of marshalled or deployed personnel	Not applicable

hued)

TAC FUNCTIONAL AREAS		
LOGISTICS	MANPOWER AND PERSONNEL	PLANS
TAC execute order	TAC execute order	TAC execute order
Tasking for deployment/employment, support and beddown (see A0.4.11)	Not applicable	Not applicable
Location and condition of generated or launched aircraft, marshalled or deployed material and personnel	Location and condition of marshalled or deployed personnel	Not applicable

**TACTICAL FIGHTER WING: MODEL 6 RESPOND TO CRISIS
(CONTINGENCY)**

MODEL REFERENCE	TACTICAL FIGHTER WING FUNCTIONAL AREAS			
	OPERATIONS	MAINTENANCE	RESOURCE MANAGEMENT	SUP
A0.1 ANALYZE WING REQUIREMENTS				
C1 Threat Assessment and Intelligence	Outside system scope	Outside system scope	Outside system scope	Outside system scope
C2 Preplanned Wing Tasking	Wing tasking in existing contingency plans for which the wing has trained	Wing tasking in existing contingency plans for which the wing has trained	Wing tasking in existing contingency plans for which the wing has trained	Wing tasking in existing contingency plans for which the wing has trained
C3 EAM or Tasking	PAA, MDS, configuration, employment mission, deployment support (SAC and MAC), route advice	PAA, MDS, configuration, employment mission, deployment support (SAC and MAC), route advice	PAA, MDS, configuration, employment mission, deployment support (SAC and MAC), route advice	Not applicable
I1 Wing Resource Data (Readiness)	Aircraft status by tail number; MDS Aircrew status by crew member name	Aircraft status by tail number AGE status Assembly and distribution Equipment and personnel Load crews and equipment POL and equipment Aircraft maintenance unit (AMU)	PAA mobility requirements WRSK status by item (Items essential to launch aircraft and perform mission) Status of material handling equipment (MHE)	Not applicable
A0.2 ASSIGN RESOURCES				
C1 Vertical and Informal Frags	Aircraft generation requirements by PAA, configuration, and schedule	Aircraft generation requirements by PAA, configuration, and schedule	Mobility and deployment requirements by pallet, vehicle, mobility position number	Mobility and deployment requirements by pallet, vehicle, mobility position number
C2 HQ TAC Tasking (Frag) Order	Wing tasking including PAA, deployment and employment schedule, mission, route concurrence, enroute support and beddown support	Wing tasking including PAA, deployment and employment schedule and mission	Wing tasking including PAA, deployment and employment schedule, mission, route concurrence, enroute and beddown support	Not applicable
I1 Wing Resource Data	Aircraft status by tail number Aircrew status by crew member name Graduated combat capability (GCC) Ocean crossing Refueling sorties Availability	Aircraft status by tail number AGE status A&D Equipment and Personnel Load crews and equipment POL and equipment Spare engines Aircraft maintenance unit (AMU)	Status of mobility position number (MPN) Personnel called out by MCC Status of mobilization pallet Material by sequence number	Status of MPN position Status of vehicle
A0.3 MONITOR MOBILIZATION, DEPLOYMENT, EMPLOYMENT				
C1 Formal Wing Frag	Deployment orders for all material and personnel being deployed	Deployment orders for all material and personnel being deployed	Deployment orders for all material and personnel being deployed, cargo/PAX manifest, orders, equipment transfer data	Deployment orders for all material and personnel being deployed
C2 HQ TAC Tasking	TAC execute order and confirmed launch times	TAC execute order and confirmed launch times	TAC execute order and confirmed launch times	TAC execute order and confirmed launch times
C3 Threat Assessment and Intelligence	Outside system scope	Outside system scope	Outside system scope	Outside system scope
I1 Wing Resource Data Marshall and Enroute	Status of launched fighters Time Location ETA Condition	Status of enroute maintenance team Material	Status of deploying personnel by MCC Individual, material by pallet # and courier, vehicle by nomenclature	Outside system scope
I1 Wing Resource Data Engaged	Aircraft status by tail number Aircrew status by crew member name	Aircraft status by tail number AGE status A&D equipment and personnel Load crews and equipment POL and equipment Spare engines Aircraft maintenance unit (AMU)	WRSK status by item	Not applicable

TACTICAL FIGHTER WING FUNCTIONAL AREAS		
MAINTENANCE	RESOURCE MANAGEMENT	SUPPORT GROUP
scope	Outside system scope	Outside system scope
existing contingency plans wing has trained	Wing tasking in existing contingency plans for which the wing has trained	Wing tasking in existing contingency plans for which the wing has trained
configuration, employment mission support (SAC and MAC)	PAA, MDS, configuration, employment mission, deployment support (SAC and MAC), route advice	Not applicable
by tail number	PAA mobility requirements	Not applicable
distribution of personnel	WSK status by item (Items essential to launch aircraft and perform mission)	
equipment	Status of material handling equipment (MHE)	
tenance unit (AMU)		
ation requirement by PAA, and schedule	Mobility and deployment requirements by pallet, vehicle, mobility position number	Mobility and deployment requirements by pallet, vehicle, mobility position number
including PAA, deployment and schedule and mission	Wing tasking including PAA, deployment and employment schedule, mission, route concurrence, enroute and beddown support	Not applicable
by tail number	Status of mobility position number (MPN)	Status of MPN personnel called out by MCC
ent and Personnel	Personnel called out by MCC	Status of vehicles called out by MCC
equipment	Status of mobilization pallet	
ument	Material by sequence number	
tenance unit (AMU)		
orders for all material and ng deployed	Deployment orders for all material and personnel being deployed; cargo/PAX manifest, orders, equipment transfer data	Deployment orders for all material and personnel being deployed
order and confirmed	TAC execute order and confirmed launch times	TAC execute order and confirmed launch times
scope	Outside system scope	Outside system scope
oute maintenance team	Status of deploying personnel by MCC Individual, material by pallet # and courier, vehicle by nomenclature	Outside system scope
by tail number	WSK status by item	Not applicable
ent and personnel		
nd equipment		
ument		
tenance unit (AMU)		

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